

# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/07/11  
yy mm dd

Initials: EW

Use a separate sheet for each configuration.

Configuration Name:  $Q^{226}$

$w = 3.19$ ,  $x = 0.39$

SHMS Left

E<sub>beam</sub>: 10.599 GeV

I<sub>beam</sub>: 60  $\mu$ A

HMS

p: +/- 28.190  
From GUI

$\theta$ (TV): 28.185  
Nearest 0.005

SHMS

p: +/- 9.830  
From GUI

$\theta$ (TV): 9.650  
Nearest 0.005

Collimator:

HMS: Large ☒ Sieve ☐

SHMS: Collim ☒ Sieve ☐

Purpose:

☒ Production

☐ Test (e.g. DAQ, Detector)

☐ Optics (SHMS / HMS)

☐ Other: \_\_\_\_\_

Raster: ☒ On ☐ Off  
Size: 2x2

Beam position and angle on target:

|        |                  |                  |
|--------|------------------|------------------|
| 3H07A  | X                | Y                |
|        | <u>-0.12</u> mm  | <u>-0.285</u> mm |
| Nomin: |                  | Nomin:           |
| 3H07C  | X                | Y                |
|        | <u>-0.707</u> mm | <u>-0.54</u> mm  |
| Nomin: |                  | Nomin:           |

HMS

SHMS

|    |                                                                                                         |                                                                     |    |
|----|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----|
| Q1 | I-SET (from PSU)<br><u>312.39</u> A<br>B-HALL<br><u>0.41860</u> T                                       | I-SET (from PSU)<br><u>2747.55</u> A<br>B-HALL<br><u>-17.369</u> kG | HB |
| Q2 | I-SET (from PSU)<br><u>248.34</u> A<br>B-HALL<br><u>-0.46179</u> T                                      | I-SET (from PSU)<br><u>1696.52</u> A<br>B-HALL<br><u>12.039</u> kG  | Q1 |
| Q3 | I-SET (from PSU)<br><u>1206.3</u> A<br>B-HALL<br><u>0.24297</u> T                                       | I-SET (from PSU)<br><u>2832.96</u> A<br>B-HALL<br><u>-26.707</u> kG | Q2 |
| D  | I-READ<br><u>733.62</u> A<br>B-NMR<br><u>0.65646</u> T                                                  | I-SET (from PSU)<br><u>1869.00</u> A<br>B-HALL<br><u>-17.892</u> kG | Q3 |
|    | If momentum increased:<br><input type="checkbox"/> HMS cycled?<br><input type="checkbox"/> SHMS cycled? | I-SET (from PSU)<br><u>2562.92</u> A<br>B-NMR<br><u>18.546</u> kG   | D  |

Run Number:

15454

☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 13  
PS2: -1  
PS3: -1  
PS4: 6  
PS5: 2  
PS6: 0  
Mode10: cer / fadc

Start time (RC GUI):

0:00:06

Stop time (RC GUI):

6:53:12

☒ Settings Verified?  
☒ HV OK?  
☒ 50k OK?

HMS prescale  
pretrig: 138 k

$e-\pi n$  evts:  
538

SHMS prescale  
pretrig: 46 k

$\Sigma e-\pi n$  evts:  
538

COIN pretrig: 65 k

☒ Data ok  
☐ Junk

Comments:

60 mA

$Q = 139.710$

STOR  $\rightarrow$  11/07  
 $\rightarrow$  Prescaled beam wrong? SHMS  
low cur

Run Number:

15455

☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 13  
PS2: -1  
PS3: -1  
PS4: 6  
PS5: 2  
PS6: 0  
Mode10: cer / fadc

Start time (RC GUI):

06:54:21

Stop time (RC GUI):

07:54

☒ Settings Verified?  
☒ HV OK?  
☒ 50k OK?

HMS prescale  
pretrig: 137 k

$e-\pi n$  evts:  
474

SHMS prescale  
pretrig: 47 k

$\Sigma e-\pi n$  evts:  
1012

COIN pretrig: 69 k

☒ Data ok  
☐ Junk

Comments:

60 mA

$Q = 137.823$

$\Sigma Q = 277.533$

Run Number:

15456

☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 13  
PS2: -1  
PS3: -1  
PS4: 6  
PS5: 0  
PS6: -1  
Mode10: cer / fadc

Start time (RC GUI):

07:55:19

Stop time (RC GUI):

08:54

☒ Settings Verified?  
☒ HV OK?  
☒ 50k OK?

HMS prescale  
pretrig: 123 k

$e-\pi n$  evts:  
471

SHMS prescale  
pretrig: 42 k

$\Sigma e-\pi n$  evts:  
          

COIN pretrig: 63 k

☒ Data ok  
☐ Junk

Comments:

60  $\rightarrow$  45 mA for last 10-20 minutes  
Very unstable beam, Probably ok? Current varied  
during run

Run Number:

15457

☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 11  
PS2: -1  
PS3: -1  
PS4: 5  
PS5: 0  
PS6: -1  
Mode10: cer / fadc

Start time (RC GUI):

08:56

Stop time (RC GUI):

08:57

☐ Settings Verified?  
☐ HV OK?  
☒ 50k OK?

HMS prescale  
pretrig:            k

$e-\pi n$  evts:  
          

SHMS prescale  
pretrig:            k

$\Sigma e-\pi n$  evts:  
          

COIN pretrig:            k

☒ Data ok  
☐ Junk

Comments:

45 mA JUNK

FADC Mode10 run  $\rightarrow$  DAQ crash



# p(e,e' $\pi$ )n Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/07/11  
yy mm dd

Initials: SJK

## Continuation of Configuration:

$Q^2 = 6.00 \text{ q.u.} = 3.14 \text{ q.u.} \times 0.39$   
SHMS Left

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                               |                                                              |                                                                      |                                                                                                          |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Run Number:<br><u>15458</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>09:00</u><br>Stop time (RC GUI):<br><u>09:04</u> | <input type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale pretrig: <u>/</u> k<br>$e-\pi n$ evts: <u>/</u> | SHMS prescale pretrig: <u>/</u> k<br>$\Sigma e-\pi n$ evts: <u>/</u> | COIN pretrig: <u>/</u> k<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|

FADC Mode10 Run, no beam JUNK

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                               |                                                              |                                                                      |                                                                                                          |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Run Number:<br><u>15459</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>09:07</u><br>Stop time (RC GUI):<br><u>09:11</u> | <input type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale pretrig: <u>/</u> k<br>$e-\pi n$ evts: <u>/</u> | SHMS prescale pretrig: <u>/</u> k<br>$\Sigma e-\pi n$ evts: <u>/</u> | COIN pretrig: <u>/</u> k<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|

FADC Mode10 Run, ~~no beam~~ no beam (!) JUNK

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                               |                                                              |                                                                      |                                                                                                          |
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| Run Number:<br><u>15460</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>09:17</u><br>Stop time (RC GUI):<br><u>09:21</u> | <input type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale pretrig: <u>/</u> k<br>$e-\pi n$ evts: <u>/</u> | SHMS prescale pretrig: <u>/</u> k<br>$\Sigma e-\pi n$ evts: <u>/</u> | COIN pretrig: <u>/</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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FADC Mode10, 48  $\mu$ A

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                  |                                                                           |                                                                                                           |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Run Number:<br><u>15461</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>09:22</u><br>Stop time (RC GUI):<br><u>10:01</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: <u>162</u> k<br>$e-\pi n$ evts: <u>282</u> | SHMS prescale pretrig: <u>108</u> k<br>$\Sigma e-\pi n$ evts: <u>1294</u> | COIN pretrig: <u>40</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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48  $\mu$ A & beam off @ 10:00 for rotation to  $5.65^\circ$   $\alpha = 83.52 \text{ mC} \Rightarrow \alpha = 361.053$

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                |                                                                       |                                                                                               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Run Number:<br><u>15462</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>10:02</u><br>Stop time (RC GUI):<br><u>10:08</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: <u>22</u> k<br>$e-\pi n$ evts: <u>48</u> | SHMS prescale pretrig: <u>14</u> k<br>$\Sigma e-\pi n$ evts: <u>/</u> | COIN pretrig: <u>6</u> k<br><input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|

Short run MLC way finishing Hall A ion chamber calib 48  $\rightarrow$  40  $\mu$ A during run

|             |                                                                                                                                                                                                                                    |                                                                                                        |                                                         |                                                                                                                    |                                                        |                                                                |                                                                                            |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Run Number: | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: _____<br>PS2: _____<br>PS3: _____<br>PS4: _____<br>PS5: _____<br>PS6: _____<br>Mode10: cer / fadc | Start time (RC GUI):<br><br>Stop time (RC GUI):<br><br> | <input type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale pretrig: _____ k<br>$e-\pi n$ evts: _____ | SHMS prescale pretrig: _____ k<br>$\Sigma e-\pi n$ evts: _____ | COIN pretrig: _____ k<br><input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------|



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/07/11  
yy mm dd

Initials: Sdpk

Use a separate sheet for each configuration.

Configuration Name: \_\_\_\_\_

$Q^2 = 6.00$   $W = 3.14$

$x = 0.39$   $SHMS$  ~~center~~  
RIGHT

E<sub>beam</sub>: 10.54 GeV

I<sub>beam</sub>: 40  $\mu$ A

Purpose:

- ☒ Production  
☐ Test (e.g. DAQ, Detector)  
☐ Optics (SHMS / HMS)  
☐ Other: \_\_\_\_\_

Raster: ☒ On ☐ Off  
Size: 2x2 mm

HMS

p: 2.348  
From GUI

$\theta$ (TV): 28.175 (28.19)  
Nearest 0.005

Beam position and angle on target:

|        |          |           |
|--------|----------|-----------|
| 3H07A  | X        | Y         |
|        | -0.08 mm | -0.295 mm |
| Nomin: | -0.09    | -0.3      |
| 3H07C  | X        | Y         |
|        | -0.72 mm | -0.51 mm  |
| Nomin: | -0.8     | -0.49     |

SHMS

p: 8.0350  
From GUI

$\theta$ (TV): 5.650 (5.650)  
Nearest 0.005

Collimator:

HMS: Large Sieve ☒

SHMS: Collim Sieve ☒

Run Number:

15463

- ☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 14  
PS2: 7  
PS3: 7  
PS4: 5  
PS5: 0  
PS6: -1  
Mode10: cer / fadc

Start time (RC GUI):

18:53

Stop time (RC GUI):

19:24:58

☒ Settings Verified?

☒ HV OK?

☒ 50k OK?

HMS prescale  
pretrig: 123 k

$e-\pi n$  evts:  
240

SHMS prescale  
pretrig: 113 k

$\Sigma e-\pi n$  evts:  
—

COIN pretrig: 109 k

☒ Data ok

☐ Junk

Comments:

40  $\mu$ A (60 too high)

SHMS  
changed  $\tilde{c}$  spectrum  
not as expected

$Q = 43.242$  mC

Run Number:

15464

- ☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 14  
PS2: 7  
PS3: 7  
PS4: 5  
PS5: 0  
PS6: -1  
Mode10: cer / fadc

Start time (RC GUI):

19:27:58

Stop time (RC GUI):

20:28

☒ Settings Verified?

☒ HV OK?

☒ 50k OK?

HMS prescale  
pretrig: 267 k

$e-\pi n$  evts:  
528

SHMS prescale  
pretrig: 248 k

$\Sigma e-\pi n$  evts:  
768

COIN pretrig: 235 k

☒ Data ok

☐ Junk

Comments:

$Q = 137.949$  mC

Run Number:

15465

- ☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 14  
PS2: 7  
PS3: 7  
PS4: 5  
PS5: 0  
PS6: -1  
Mode10: cer / fadc

Start time (RC GUI):

20:29

Stop time (RC GUI):

20:32

☒ Settings Verified?

☒ HV OK?

☐ 50k OK?

HMS prescale  
pretrig: \_\_\_\_\_ k

$e-\pi n$  evts:  
\_\_\_\_\_

SHMS prescale  
pretrig: \_\_\_\_\_ k

$\Sigma e-\pi n$  evts:  
\_\_\_\_\_

COIN pretrig: \_\_\_\_\_ k

☒ Data ok

☐ Junk

Comments:

Mode 10 Run

Run Number:

15466

- ☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 14  
PS2: 7  
PS3: 7  
PS4: 5  
PS5: 0  
PS6: -1  
Mode10: cer / fadc

Start time (RC GUI):

20:32

Stop time (RC GUI):

21:32

☒ Settings Verified?

☒ HV OK?

☒ 50k OK?

HMS prescale  
pretrig: 251 k

$e-\pi n$  evts:  
474

SHMS prescale  
pretrig: 232 k

$\Sigma e-\pi n$  evts:  
1242

COIN pretrig: 221 k

☒ Data ok

☐ Junk

Comments:

normal

$Q = 129.206$  mC



# p(e,e'π)n Run Sheet

can be found at lichen.phys.uregina.ca/~huberg/fpi/

Date: 22/07/11  
yy mm dd

Initials: ERK

## Continuation of Configuration:

$$Q^2 = 4.00, W = 3.19$$

$$x = 0.39, \text{SHMS Right}$$

This sheet is only to be used to continue a running configuration.

|                      |                                                                                                                                                                                                                                               |                                                                                   |                                                               |                                                                                                                                                     |                                                                                                         |                                                                              |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br>15467 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: 0<br>Mode10: cer / fadc | Start time (RC GUI):<br>21:34<br>Stop time (RC GUI):<br>22:34 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 275 k<br>SHMS prescale 254 k<br>COIN pretrig: 242 k<br>e-πn evts: 550<br>Σ e-πn evts: 1792 | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|

$$Q = 142.213$$

|                      |                                                                                                                                                                                                                                               |                                                                                   |                                                               |                                                                                                                                                     |                                                                                                         |                                                                              |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br>15468 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: 0<br>Mode10: cer / fadc | Start time (RC GUI):<br>22:35<br>Stop time (RC GUI):<br>23:35 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 253 k<br>SHMS prescale 235 k<br>COIN pretrig: 224 k<br>e-πn evts: 500<br>Σ e-πn evts: 2292 | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|

$$Q = 130.358$$

|                      |                                                                                                                                                                                                                                               |                                                                                   |                                                                  |                                                                                                                                                     |                                                                                                         |                                                                              |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br>15469 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: 0<br>Mode10: cer / fadc | Start time (RC GUI):<br>23:36<br>Stop time (RC GUI):<br>00:37:09 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 269 k<br>SHMS prescale 250 k<br>COIN pretrig: 237 k<br>e-πn evts: 553<br>Σ e-πn evts: 2845 | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|

$$Q = 138.659$$

|                      |                                                                                                                                                                                                                                               |                                                                                   |                                                                     |                                                                                                                                                     |                                                                                                         |                                                                              |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br>15470 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: 0<br>Mode10: cer / fadc | Start time (RC GUI):<br>00:39:17<br>Stop time (RC GUI):<br>01:39:27 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 297 k<br>SHMS prescale 294 k<br>COIN pretrig: 314 k<br>e-πn evts: 580<br>Σ e-πn evts: 3425 | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|

Trying to ramp to 48 μA from 40 μA → need to raise prescales trig rates were a little high  $Q = 153.575$

|                      |                                                                                                                                                                                                                                               |                                                                                   |                                                                   |                                                                                                                                                     |                                                                                                         |                                                                              |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br>15471 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 15<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: 0<br>Mode10: cer / fadc | Start time (RC GUI):<br>1:40:32<br>Stop time (RC GUI):<br>2:39:24 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 143 k<br>SHMS prescale 137 k<br>COIN pretrig: 294 k<br>e-πn evts: 547<br>Σ e-πn evts: 3972 | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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48 μA

$$Q = 143.428$$

|                      |                                                                                                                                                                                                                                               |                                                                                   |                                                                   |                                                                                                                                                     |                                                                                                         |                                                                   |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Run Number:<br>15472 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 15<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: 0<br>Mode10: cer / fadc | Start time (RC GUI):<br>2:40:00<br>Stop time (RC GUI):<br>3:36:15 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 136 k<br>SHMS prescale 133 k<br>COIN pretrig: 283 k<br>e-πn evts: 504<br>Σ e-πn evts: 4476 | <input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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HMS Q1 tripped near the end of the run about a minute before end  $Q = 138.297$



# p(e,e'π)n Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22 / 07 / 12  
yy mm dd

Initials: EW

## Continuation of Configuration:

$$Q^2 = 6.00, W = 3.19$$

$$x = 0.39, \text{SHMS Right}$$

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                               |                                                                                                                           |                                                                                |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
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| Run Number:<br><b>15473</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>15</u><br>PS2: <u>1</u><br>PS3: <u>1</u><br>PS4: <u>6</u><br>PS5: <u>2</u><br>PS6: <u>1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>07:49:45</b><br>Stop time (RC GUI):<br><b>08:44</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>146</b> k<br>$e-\pi n$ evts:<br><b>574</b> | SHMS prescale<br>pretrig: <b>140</b> k<br>$\Sigma e-\pi n$ evts:<br><b>5080</b> | COIN pretrig: <b>301</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

48μA PS a bit high → 50 Hz each HMS/SHMS,  $Q = 146.152$  ~~gave~~ Changing next run  $\Sigma Q = 1323.071 \text{ mc}$

|                             |                                                                                                                                                                                                                                               |                                                                                                                           |                                                                             |                                                                                                                                          |                                                                        |                                                                                 |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15474</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>1</u><br>PS3: <u>7</u><br>PS4: <u>1</u><br>PS5: <u>1</u><br>PS6: <u>0</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>08:50</b><br>Stop time (RC GUI):<br><b>09:45</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>238</b> k<br>$e-\pi n$ evts:<br><b>422</b> | SHMS prescale<br>pretrig: <b>222</b> k<br>$\Sigma e-\pi n$ evts:<br><b>5472</b> | COIN pretrig: <b>236</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

48μA 3/4 Trg run → Lowered to 40μA and PS1 14  $Q = 118.379$  PS3 7  $\Sigma Q = 1441.468$  PS6 0

|                             |                                                                                                                                                                                                                                               |                                                                                                                           |                                                                             |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15475</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>1</u><br>PS3: <u>1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>09:46</b><br>Stop time (RC GUI):<br><b>10:29</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>159</b> k<br>$e-\pi n$ evts:<br><b>361</b> | SHMS prescale<br>pretrig: <b>147</b> k<br>$\Sigma e-\pi n$ evts:<br><b>5833</b> | COIN pretrig: <b>142</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

40μA Ended early, no beam  $Q = 82.076$   $\Sigma Q = 1523.534$

|                             |                                                                                                                                                                                                                                               |                                                                                                                           |                                                                             |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15476</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>1</u><br>PS3: <u>1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>10:37</b><br>Stop time (RC GUI):<br><b>11:37</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>233</b> k<br>$e-\pi n$ evts:<br><b>490</b> | SHMS prescale<br>pretrig: <b>215</b> k<br>$\Sigma e-\pi n$ evts:<br><b>6323</b> | COIN pretrig: <b>207</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

$$Q = 120.174 \quad \Sigma Q = 1643.708$$

|                             |                                                                                                                                                                                                                                               |                                                                                                                           |                                                                             |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
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| Run Number:<br><b>15477</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>1</u><br>PS3: <u>1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>11:38</b><br>Stop time (RC GUI):<br><b>12:41</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>260</b> k<br>$e-\pi n$ evts:<br><b>556</b> | SHMS prescale<br>pretrig: <b>240</b> k<br>$\Sigma e-\pi n$ evts:<br><b>6879</b> | COIN pretrig: <b>229</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

$$Q = 133.943 \quad \Sigma Q = 1777.651$$

|                             |                                                                                                                                                                                                                                               |                                                                                                                           |                                                                             |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15478</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>1</u><br>PS3: <u>1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>12:42</b><br>Stop time (RC GUI):<br><b>13:42</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>176</b> k<br>$e-\pi n$ evts:<br><b>319</b> | SHMS prescale<br>pretrig: <b>159</b> k<br>$\Sigma e-\pi n$ evts:<br><b>7198</b> | COIN pretrig: <b>159</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

$$Q = 90.093 \quad \Sigma Q = 1867.744$$



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/7/12  
yy mm dd

Initials: SJDH

## Continuation of Configuration:

$$Q^2 = 6.00 \text{ q} \quad w = 3.19$$

$$x = 0.39 \text{ q SHMS right} \quad (5.65)$$

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><u>15474</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>13:43</u><br>Stop time (RC GUI):<br><u>14:42</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>205</u> k<br>$e-\pi n$ evts:<br><u>395</u> | SHMS prescale<br>pretrig: <u>187</u> k<br>$\Sigma e-\pi n$ evts:<br><u>7593</u> | COIN pretrig: <u>181</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$$40 \text{ MA} \quad Q = 105.401 \text{ mC} \quad \Sigma Q = 1973.145 \text{ mC}$$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
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| Run Number:<br><u>15480</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>14:43</u><br>Stop time (RC GUI):<br><u>15:42</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>129</u> k<br>$e-\pi n$ evts:<br><u>284</u> | SHMS prescale<br>pretrig: <u>116</u> k<br>$\Sigma e-\pi n$ evts:<br><u>7872</u> | COIN pretrig: <u>126</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$$40 \text{ MA} \quad \text{Choppy beam} \quad Q = 65.609 \quad \Sigma Q = 2038.754$$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                       |                                                                                |                                                                                                           |
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| Run Number:<br><u>15481</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>15:57</u><br>Stop time (RC GUI):<br><u>16:42</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>86</u> k<br>$e-\pi n$ evts:<br><u>147</u> | SHMS prescale<br>pretrig: <u>78</u> k<br>$\Sigma e-\pi n$ evts:<br><u>8024</u> | COIN pretrig: <u>87</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$$\text{Ended due to Long beam off for injector laser repair} \quad Q = 43.738 \quad \Sigma Q = 2082 \text{ mC}$$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                         |                                                                                                                                          |                                                             |                                                                     |                                                                                                       |
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| Run Number:<br><u>15482</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><br>Stop time (RC GUI):<br><br> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: _____ k<br>$e-\pi n$ evts:<br><br> | SHMS prescale<br>pretrig: _____ k<br>$\Sigma e-\pi n$ evts:<br><br> | COIN pretrig: _____ k<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
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Cosmic Run to check DAA

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
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| Run Number:<br><u>15483</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>18:53</u><br>Stop time (RC GUI):<br><u>19:57</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>212</u> k<br>$e-\pi n$ evts:<br><u>430</u> | SHMS prescale<br>pretrig: <u>193</u> k<br>$\Sigma e-\pi n$ evts:<br><u>8454</u> | COIN pretrig: <u>189</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$$40 \text{ MA}, \text{ Back to Regular Proel DAA} \quad Q = 109.073 \quad \Sigma Q = 2192 \text{ mC}$$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><u>15484</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>19:58</u><br>Stop time (RC GUI):<br><u>21:01</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>147</u> k<br>$e-\pi n$ evts:<br><u>299</u> | SHMS prescale<br>pretrig: <u>134</u> k<br>$\Sigma e-\pi n$ evts:<br><u>8753</u> | COIN pretrig: <u>140</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$$40 \text{ MA} \quad Q = 75.410 \quad \Sigma Q = 2267 \text{ mC}$$



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/7/12  
yy mm dd

Initials: ERK

## Continuation of Configuration:

$$Q^2 = 6.00, \omega = 3.19$$

$x = 0.39$  SHMS Right

This sheet is only to be used to continue a running configuration.

21:02

|                             |                                                                                                                                                                                                                                               |                                                                                                                                   |                                                                                 |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><u>15485</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer/fadc</u> | Start time (RC GUI):<br><del>15:48</del><br>Stop time (RC GUI):<br><u>22:03</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>230</u> k<br>$e-\pi n$ evts:<br><u>468</u> | SHMS prescale<br>pretrig: <u>210</u> k<br>$\Sigma e-\pi n$ evts:<br><u>9221</u> | COIN pretrig: <u>201</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

40  $\mu$ A

$$Q = 117.937 \text{ mC}$$

$$\Sigma Q = 2384.9$$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                   |                                                                             |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><u>15486</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer/fadc</u> | Start time (RC GUI):<br><u>22:05</u><br>Stop time (RC GUI):<br><u>23:11</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>251</u> k<br>$e-\pi n$ evts:<br><u>499</u> | SHMS prescale<br>pretrig: <u>231</u> k<br>$\Sigma e-\pi n$ evts:<br><u>9720</u> | COIN pretrig: <u>222</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

40  $\mu$ A

$$Q = 128.985 \text{ mC}$$

$$\Sigma Q = 2514$$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                   |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                            |
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| Run Number:<br><u>15487</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer/fadc</u> | Start time (RC GUI):<br><u>23:12</u><br>Stop time (RC GUI):<br><u>00:11</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>248</u> k<br>$e-\pi n$ evts:<br><u>503</u> | SHMS prescale<br>pretrig: <u>229</u> k<br>$\Sigma e-\pi n$ evts:<br><u>10223</u> | COIN pretrig: <u>217</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

40  $\mu$ A

|                             |                                                                                                                                                                                                                                               |                                                                                                                                   |                                                                             |                                                                                                                                                     |                                                                        |                                                                             |                                                                                                           |
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| Run Number:<br><u>15488</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer/fadc</u> | Start time (RC GUI):<br><u>00:18</u><br>Stop time (RC GUI):<br><u>01:07</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>107</u> k<br>$e-\pi n$ evts:<br><u>160</u> | SHMS prescale<br>pretrig: <u>94</u> k<br>$\Sigma e-\pi n$ evts:<br><u>—</u> | COIN pretrig: <u>99</u> k<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
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Comments:

Trippy beam 6  $\mu$ A for last 20 mins 54.5

|                             |                                                                                                                                                                                                                                               |                                                                                                                                   |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                            |
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| Run Number:<br><u>15489</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer/fadc</u> | Start time (RC GUI):<br><u>01:09</u><br>Stop time (RC GUI):<br><u>02:09</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>242</u> k<br>$e-\pi n$ evts:<br><u>387</u> | SHMS prescale<br>pretrig: <u>222</u> k<br>$\Sigma e-\pi n$ evts:<br><u>10640</u> | COIN pretrig: <u>211</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

40  $\mu$ A, low number of pions (ROC 3 problem)

|                             |                                                                                                                                                                                                                                               |                                                                                                                                   |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                 |
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| Run Number:<br><u>15490</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer/fadc</u> | Start time (RC GUI):<br><u>02:09</u><br>Stop time (RC GUI):<br><u>03:10</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>235</u> k<br>$e-\pi n$ evts:<br><u>353</u> | SHMS prescale<br>pretrig: <u>216</u> k<br>$\Sigma e-\pi n$ evts:<br><u>10963</u> | COIN pretrig: <u>207</u> k<br><input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

40  $\mu$ A Same neutrino chng. 106 120.9



# p(e,e'π)n Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/07/13  
yy mm dd

Initials: DD

## Continuation of Configuration:

$Q^2 = 6 \text{ GeV}^2$ ,  $W = 319 \text{ GeV}$   
 $x = 0.39$  SHMS Right

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                   |                                                                                                        |                                                                             |                                                                                                                    |                                                                      |                                                                             |                                                                                                              |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15491</b> | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: _____<br>PS2: _____<br>PS3: _____<br>PS4: _____<br>PS5: _____<br>PS6: _____<br>Mode10: cer / fadc | Start time (RC GUI):<br><b>03:16</b><br>Stop time (RC GUI):<br><b>03:23</b> | <input type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>23</b> k<br>$e-\pi n$ evts:<br><b>39</b> | SHMS prescale<br>pretrig: <b>22</b> k<br>$\Sigma e-\pi n$ evts:<br><b>—</b> | COIN<br>pretrig: <b>21</b> k<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
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s Topped because newmeo3 hardware 12.135

|                             |                                                                                                                                                                                                                                              |                                                                                                                           |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                              |
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| Run Number:<br><b>15492</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <b>14</b><br>PS2: <b>1</b><br>PS3: <b>1</b><br>PS4: <b>5</b><br>PS5: <b>0</b><br>PS6: <b>1</b><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>03:26</b><br>Stop time (RC GUI):<br><b>04:01</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>153</b> k<br>$e-\pi n$ evts:<br><b>246</b> | SHMS prescale<br>pretrig: <b>142</b> k<br>$\Sigma e-\pi n$ evts:<br><b>11209</b> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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stopped to powercycle ROC3 79.2 mc

|                             |                                                                                                                                                                                                                                              |                                                                                                                           |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                              |
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| Run Number:<br><b>15493</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <b>14</b><br>PS2: <b>1</b><br>PS3: <b>1</b><br>PS4: <b>5</b><br>PS5: <b>0</b><br>PS6: <b>1</b><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>04:11</b><br>Stop time (RC GUI):<br><b>05:18</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>233</b> k<br>$e-\pi n$ evts:<br><b>489</b> | SHMS prescale<br>pretrig: <b>215</b> k<br>$\Sigma e-\pi n$ evts:<br><b>11698</b> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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240  $\mu$ A

Charge = 120.3 mc  
HMS eff = 99.7% SHMS eff = 95.5%

|                             |                                                                                                                                                                                                                                              |                                                                                                                           |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                              |
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| Run Number:<br><b>15494</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <b>14</b><br>PS2: <b>1</b><br>PS3: <b>1</b><br>PS4: <b>5</b><br>PS5: <b>0</b><br>PS6: <b>1</b><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>05:20</b><br>Stop time (RC GUI):<br><b>06:24</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>261</b> k<br>$e-\pi n$ evts:<br><b>545</b> | SHMS prescale<br>pretrig: <b>241</b> k<br>$\Sigma e-\pi n$ evts:<br><b>12243</b> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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40  $\mu$ A

Charge = 134.3 mc  
SHMS eff = 95.4% HMS eff = 99.8%

|                             |                                                                                                                                                                                                                                              |                                                                                                                           |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                              |
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| Run Number:<br><b>15495</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <b>14</b><br>PS2: <b>1</b><br>PS3: <b>1</b><br>PS4: <b>5</b><br>PS5: <b>0</b><br>PS6: <b>1</b><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>06:24</b><br>Stop time (RC GUI):<br><b>07:24</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>247</b> k<br>$e-\pi n$ evts:<br><b>480</b> | SHMS prescale<br>pretrig: <b>228</b> k<br>$\Sigma e-\pi n$ evts:<br><b>12723</b> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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40  $\mu$ A

Charge = 127.3 mc  
HMS eff = 99.7% SHMS eff = 95.0%

|                             |                                                                                                                                                                                                                                              |                                                                                                                           |                                                                                |                                                                                                                                                     |                                                                        |                                                                                  |                                                                              |
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| Run Number:<br><b>15496</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <b>14</b><br>PS2: <b>1</b><br>PS3: <b>1</b><br>PS4: <b>5</b><br>PS5: <b>0</b><br>PS6: <b>1</b><br>Mode10: cer / fadc | Start time (RC GUI):<br><b>07:24</b><br>Stop time (RC GUI):<br><b>08:28:06</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>224</b> k<br>$e-\pi n$ evts:<br><b>425</b> | SHMS prescale<br>pretrig: <b>205</b> k<br>$\Sigma e-\pi n$ evts:<br><b>13187</b> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Q = 115.121 mc

$\Sigma Q = 3475.226 \text{ mc}$



# p(e,e'π)n Run Sheet

can be found at lichen.phys.uregina.ca/~huberg/fpi/

Date: 22/07/13  
yy mm dd

Initials: *jm*

## Continuation of Configuration:

$Q^2 = 6 \text{ GeV}^2$ ,  $W = 3.19 \text{ GeV}$   
 $X = 0.39$  SHMS Right

High-ε

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                                   |                                                                                                                                                     |                                                             |                                                                  |                                                                                                            |
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| Run Number:<br><b>15497</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><b>08:28:47</b><br>Stop time (RC GUI):<br><b>09:27:21</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: <b>206</b> k<br>e-πn evts: <b>384</b> | SHMS prescale pretrig: <b>188</b> k<br>Σ e-πn evts: <b>13571</b> | COIN pretrig: <b>184</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 205.785 \text{ mC}$   
 $\Sigma Q = 3581.011 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                                   |                                                                                                                                                     |                                                             |                                                                  |                                                                                                            |
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| Run Number:<br><b>15498</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><b>09:28:32</b><br>Stop time (RC GUI):<br><b>10:30:48</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: <b>169</b> k<br>e-πn evts: <b>325</b> | SHMS prescale pretrig: <b>152</b> k<br>Σ e-πn evts: <b>13896</b> | COIN pretrig: <b>155</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 86.4185 \text{ mC}$   
 $\Sigma Q = 3667.496 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                                   |                                                                                                                                                     |                                                             |                                                                  |                                                                                                            |
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| Run Number:<br><b>15499</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><b>10:31:46</b><br>Stop time (RC GUI):<br><b>11:39:18</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: <b>160</b> k<br>e-πn evts: <b>283</b> | SHMS prescale pretrig: <b>146</b> k<br>Σ e-πn evts: <b>14179</b> | COIN pretrig: <b>154</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 81.812 \text{ mC}$   
 $\Sigma Q = 3749.308 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                                   |                                                                                                                                                     |                                                             |                                                                  |                                                                                                            |
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| Run Number:<br><b>15500</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><b>11:39:57</b><br>Stop time (RC GUI):<br><b>12:42:41</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: <b>187</b> k<br>e-πn evts: <b>379</b> | SHMS prescale pretrig: <b>170</b> k<br>Σ e-πn evts: <b>14558</b> | COIN pretrig: <b>171</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 95.916 \text{ mC}$   
 $\Sigma Q = 3845.224 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                                   |                                                                                                                                                     |                                                           |                                                                 |                                                                                                           |
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| Run Number:<br><b>15501</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><b>12:43:25</b><br>Stop time (RC GUI):<br><b>13:00:23</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: <b>40</b> k<br>e-πn evts: <b>65</b> | SHMS prescale pretrig: <b>36</b> k<br>Σ e-πn evts: <b>14623</b> | COIN pretrig: <b>37</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Ended early

$Q = 20.345 \text{ mC}$   
 $\Sigma Q = 3865.569 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                                   |                                                                                                                                          |                                                            |                                                          |                                                                                                           |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15502</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><b>13:04:14</b><br>Stop time (RC GUI):<br><b>13:28:57</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: <b>48</b> k<br>e-πn evts: <b>100</b> | SHMS prescale pretrig: <b>42</b> k<br>Σ e-πn evts: _____ | COIN pretrig: <b>40</b> k<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
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Bad beam changing current

↑  
Probably



# p(e,e' $\pi$ )n Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22, 07, 13  
yy mm dd

Initials: gm

## Continuation of Configuration:

$$Q^2 = 6.00 \text{ GeV}^2, W = 3.19 \text{ GeV}$$

$x = 0.39$ , High- $E$ , SHMS Right

This sheet is only to be used to continue a running configuration.

|                      |                                                                                                                                                                                                                                                           |                                                                                    |                                                         |                                                                                                                                          |                                               |                                                       |                                                                                      |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------|
| Run Number:<br>15503 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input checked="" type="checkbox"/> @ Home | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>13:51:07<br>Stop time (RC GUI): | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: k<br>$e-\pi n$ evts: | SHMS prescale<br>pretrig: k<br>$\Sigma e-\pi n$ evts: | COIN pretrig: k<br><input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------|

Comments:

BCM Calibration

|                      |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                      |                                                             |                                                                                                    |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15504 | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>14:33<br>Stop time (RC GUI):<br>17:34 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 101 k<br>$e-\pi n$ evts: 35 | SHMS prescale<br>pretrig: 44 k<br>$\Sigma e-\pi n$ evts: 35 | COIN pretrig: 51 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

START Dummy Tgt Runs (40  $\mu$ A)

$$Q = 122.4 \text{ mC}$$

$$\Sigma Q = 122.4 \text{ mC}$$

|                      |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                     |                                                             |                                                                                                    |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15505 | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>17:35<br>Stop time (RC GUI):<br>18:25 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 74 k<br>$e-\pi n$ evts: 27 | SHMS prescale<br>pretrig: 32 k<br>$\Sigma e-\pi n$ evts: 62 | COIN pretrig: 41 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

Ended due to accel repair needed

$$Q = 89.051 \text{ mC}$$

$$\Sigma Q = 211.42 \text{ mC}$$

|                      |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                     |                                                             |                                                                                                    |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15506 | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>18:54<br>Stop time (RC GUI):<br>20:01 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 26 k<br>$e-\pi n$ evts: 11 | SHMS prescale<br>pretrig: 10 k<br>$\Sigma e-\pi n$ evts: 73 | COIN pretrig: 42 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

Last 25 min, no beam

$$Q = 29.55 \text{ mC}$$

$$\Sigma Q = 240.97 \text{ mC}$$

|                      |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                      |                                                              |                                                                                                    |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15507 | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>21:42<br>Stop time (RC GUI):<br>22:44 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 117 k<br>$e-\pi n$ evts: 39 | SHMS prescale<br>pretrig: 51 k<br>$\Sigma e-\pi n$ evts: 112 | COIN pretrig: 56 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

$$Q = 141.60 \text{ mC}$$

$$\Sigma Q = 382.57 \text{ mC}$$

|                      |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                     |                                                              |                                                                                                    |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15508 | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>22:48<br>Stop time (RC GUI):<br>23:22 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 61 k<br>$e-\pi n$ evts: 21 | SHMS prescale<br>pretrig: 26 k<br>$\Sigma e-\pi n$ evts: 133 | COIN pretrig: 29 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Comments:

$$Q = 73.57 \text{ mC}$$

$$\Sigma Q = 456.14 \text{ mC}$$



# p(e,e' $\pi$ )n Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/07/13  
yy mm dd

Initials: PRK

## Continuation of Configuration:

$Q^2 = 6.00 \text{ GeV}^2$ ,  $W = 3.19 \text{ GeV}$   
 $x = 0.39$ , SHMS RIGHT

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                  |                                                                              |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><u>15509</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>23:32</u><br>Stop time (RC GUI):<br><u>00:40</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>245</u> k<br>SHMS prescale<br><u>227</u> k<br>COIN pretrig: <u>220</u> k<br>$e-\pi n$ evts: <u>506</u><br>$\Sigma e-\pi n$ evts: <u>15129</u> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 126.5 \text{ mC}$   
 $\Sigma Q = 3992.1 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                  |                                                                   |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Run Number:<br><u>15510</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>00:45</u><br>Stop time (RC GUI):<br><u>01:46</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>228</u> k<br>SHMS prescale<br><u>211</u> k<br>COIN pretrig: <u>204</u> k<br>$e-\pi n$ evts: <u>451</u><br>$\Sigma e-\pi n$ evts: <u>15580</u> | <input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 117.6 \text{ mC}$   
 $\Sigma Q = 4109.7 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                  |                                                                              |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><u>15511</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>01:47</u><br>Stop time (RC GUI):<br><u>02:53</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>131</u> k<br>SHMS prescale<br><u>117</u> k<br>COIN pretrig: <u>128</u> k<br>$e-\pi n$ evts: <u>288</u><br>$\Sigma e-\pi n$ evts: <u>15868</u> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Low current during last 30 mins of run  $Q = 67.1 \text{ mC}$   
 $\Sigma Q = 4176.8 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                          |                                                                                                                                       |                                                                              |
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| Run Number:<br><u>15512</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>02:54</u><br>Stop time (RC GUI):<br><u>03:15</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale<br>_____ k<br>SHMS prescale<br>_____ k<br>COIN pretrig: _____ k<br>$e-\pi n$ evts: _____<br>$\Sigma e-\pi n$ evts: _____ | <input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
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No beam during this run

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                  |                                                                              |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><u>15513</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>03:47</u><br>Stop time (RC GUI):<br><u>04:49</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>171</u> k<br>SHMS prescale<br><u>148</u> k<br>COIN pretrig: <u>139</u> k<br>$e-\pi n$ evts: <u>325</u><br>$\Sigma e-\pi n$ evts: <u>16193</u> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 87.5 \text{ mC}$   
 $\Sigma Q = 4264.3 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                  |                                                                              |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><u>15514</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer / fadc</u> | Start time (RC GUI):<br><u>04:50</u><br>Stop time (RC GUI):<br><u>05:52</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>126</u> k<br>SHMS prescale<br><u>108</u> k<br>COIN pretrig: <u>109</u> k<br>$e-\pi n$ evts: <u>238</u><br>$\Sigma e-\pi n$ evts: <u>16431</u> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 64.1$   
 $\Sigma Q = 4328.4$



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/07/14  
yy mm dd

Initials: DD

## Continuation of Configuration:

$$Q^2 = 6.00 \text{ GeV}^2, W = 3.9 \text{ GeV}$$

$x = 0.39$ , high  $t$ , SHMS right

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                               |                                                                                 |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15515</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: 1<br>PS3: 1<br>PS4: 5<br>PS5: 0<br>PS6: 1<br>Mode10: cer / fadc | Start time (RC GUI):<br><b>05:54</b><br>Stop time (RC GUI):<br><b>05:57</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>173</b> k<br>$e-\pi n$ evts:<br><b>374</b> | SHMS prescale<br>pretrig: <b>150</b> k<br>$\Sigma e-\pi n$ evts:<br><b>16805</b> | COIN pretrig: <b>141</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$$Q = 88.7 \text{ mc}$$

$$\Sigma Q = 4417.1 \text{ mc}$$

|                             |                                                                                                                                                                                                                                               |                                                                                 |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                            |
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| Run Number:<br><b>15516</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: 1<br>PS3: 1<br>PS4: 8<br>PS5: 1<br>PS6: 1<br>Mode10: cer / fadc | Start time (RC GUI):<br><b>06:58</b><br>Stop time (RC GUI):<br><b>08:15</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>251</b> k<br>$e-\pi n$ evts:<br><b>537</b> | SHMS prescale<br>pretrig: <b>221</b> k<br>$\Sigma e-\pi n$ evts:<br><b>17342</b> | COIN pretrig: <b>200</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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Run ended for maintenance day

$$Q = 129.6$$

$$\Sigma Q = 4546.6 \text{ mc}$$

|                             |                                                                                                                                                                                                                                               |                                                                                 |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15517</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: 1<br>PS3: 1<br>PS4: 5<br>PS5: 1<br>PS6: 1<br>Mode10: cer / fadc | Start time (RC GUI):<br><b>22:10</b><br>Stop time (RC GUI):<br><b>23:10</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>270</b> k<br>$e-\pi n$ evts:<br><b>546</b> | SHMS prescale<br>pretrig: <b>262</b> k<br>$\Sigma e-\pi n$ evts:<br><b>17888</b> | COIN pretrig: <b>263</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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48 mA

$$Q = 140.864 \text{ mc}$$

$$\Sigma Q = 4687.5 \text{ mc}$$

|                             |                                                                                                                                                                                                                                               |                                                                                 |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15518</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: 1<br>PS3: 1<br>PS4: 5<br>PS5: 1<br>PS6: 1<br>Mode10: cer / fadc | Start time (RC GUI):<br><b>23:11</b><br>Stop time (RC GUI):<br><b>00:11</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>308</b> k<br>$e-\pi n$ evts:<br><b>552</b> | SHMS prescale<br>pretrig: <b>298</b> k<br>$\Sigma e-\pi n$ evts:<br><b>18440</b> | COIN pretrig: <b>295</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|

48 mA

$$Q = 160.6 \text{ mc}$$

$$\Sigma Q = 4848.1 \text{ mc}$$

|                             |                                                                                                                                                                                                                                               |                                                                                 |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15519</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: 1<br>PS3: 1<br>PS4: 5<br>PS5: 1<br>PS6: 1<br>Mode10: cer / fadc | Start time (RC GUI):<br><b>00:12</b><br>Stop time (RC GUI):<br><b>01:21</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>319</b> k<br>$e-\pi n$ evts:<br><b>673</b> | SHMS prescale<br>pretrig: <b>308</b> k<br>$\Sigma e-\pi n$ evts:<br><b>19113</b> | COIN pretrig: <b>308</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|

48 mA

$$Q = 165.9 \text{ mc}$$

$$\Sigma Q = 5014.0 \text{ mc}$$

|                             |                                                                                                                                                                                                                                               |                                                                                 |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15520</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: 1<br>PS3: 1<br>PS4: 5<br>PS5: 1<br>PS6: 1<br>Mode10: cer / fadc | Start time (RC GUI):<br><b>01:22</b><br>Stop time (RC GUI):<br><b>02:21</b> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <b>281</b> k<br>$e-\pi n$ evts:<br><b>537</b> | SHMS prescale<br>pretrig: <b>280</b> k<br>$\Sigma e-\pi n$ evts:<br><b>19650</b> | COIN pretrig: <b>277</b> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|

48 mA

99.7, 94.4

$$Q = 150.9 \text{ mc}$$

$$\Sigma Q = 5164.9 \text{ mc}$$



# p(e,e'π)n Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 24 07 15  
yy mm dd

Initials: DD

## Continuation of Configuration:

$Q = 6.0 \text{ GeV}^2$ ,  $W = 3.18 \text{ GeV}$

$x = 0.39$ , light, SHMS right

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                                                                            |                                                                              |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><b>15521</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>02:22<br>Stop time (RC GUI):<br>03:31 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale: 336 k<br>SHMS prescale: 326 k<br>COIN pretrig: 324 k<br>e-πn evts: 649<br>Σ e-πn evts: 20299 | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|

48 μA

99.7, 94.4

$Q = 174.8 \text{ mC}$   
 $\Sigma Q = 5339.7 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                                                                            |                                                                              |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><b>15522</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>03:32<br>Stop time (RC GUI):<br>04:32 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale: 240 k<br>SHMS prescale: 230 k<br>COIN pretrig: 233 k<br>e-πn evts: 488<br>Σ e-πn evts: 20787 | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|

48 μA

99.7, 94.5

$Q = 124.2 \text{ mC}$   
 $\Sigma Q = 5463.9 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                                                                            |                                                                   |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Run Number:<br><b>15523</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>04:32<br>Stop time (RC GUI):<br>05:34 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale: 220 k<br>SHMS prescale: 210 k<br>COIN pretrig: 217 k<br>e-πn evts: 433<br>Σ e-πn evts: 21210 | <input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|

48 μA

99.7, 94.8

$Q = 113.9 \text{ mC}$   
 $\Sigma Q = 5577.8 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                                                                            |                                                                              |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><b>15524</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>05:34<br>Stop time (RC GUI):<br>06:34 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale: 186 k<br>SHMS prescale: 177 k<br>COIN pretrig: 186 k<br>e-πn evts: 378<br>Σ e-πn evts: 21588 | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|

48 μA

99.7, 94.1

$Q = 96.1 \text{ mC}$   
 $\Sigma Q = 5673.9 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                                                                            |                                                                              |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><b>15525</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>06:34<br>Stop time (RC GUI):<br>07:35 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale: 217 k<br>SHMS prescale: 206 k<br>COIN pretrig: 211 k<br>e-πn evts: 443<br>Σ e-πn evts: 22031 | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|

48 μA

99.7, 94.3

$Q = 112.2 \text{ mC}$   
 $\Sigma Q = 5786.1 \text{ mC}$

|                             |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                                                                            |                                                                              |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><b>15526</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>07:36<br>Stop time (RC GUI):<br>08:44 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale: 260 k<br>SHMS prescale: 249 k<br>COIN pretrig: 255 k<br>e-πn evts: 507<br>Σ e-πn evts: 22538 | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|

48 μA

99.6 98.9

$Q = 134.8 \text{ mC}$   
 $\Sigma Q = 5920.9 \text{ mC}$



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22 / 7 / 15  
yy mm dd

Initials: MMO

## Continuation of Configuration:

$$Q^2 = 6.0 \text{ GeV}^2, W = 3.9 \text{ GeV}$$

$x = 0.39$  right SHMS light

This sheet is only to be used to continue a running configuration.

|                                                                                                   |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                    |                                                                              |
|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><u>15527</u>                                                                       | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><u>08:45</u><br>Stop time (RC GUI):<br><u>09:45</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale:<br><u>271</u> k<br>SHMS prescale:<br><u>261</u> k<br>COIN pretrig: <u>262</u> k<br>$e-\pi n$ evts: <u>522</u><br>$\Sigma e-\pi n$ evts: <u>23060</u> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>48 <math>\mu</math>A</u><br>$Q = 140.8 \text{ mC}$<br>$\Sigma Q = 6061.7 \text{ mC}$ |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                    |                                                                              |

|                                                                                                  |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                                             |                                                                                                                                                     |                                                                                                                                                                    |                                                                              |
|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><u>15528</u>                                                                      | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><del>10:39</del> <u>9:46</u><br>Stop time (RC GUI):<br><u>10:38</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale:<br><u>246</u> k<br>SHMS prescale:<br><u>139</u> k<br>COIN pretrig: <u>150</u> k<br>$e-\pi n$ evts: <u>289</u><br>$\Sigma e-\pi n$ evts: <u>23349</u> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>48 <math>\mu</math>A</u><br>$Q = 75.5 \text{ mC}$<br>$\Sigma Q = 6137.2 \text{ mC}$ |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                                             |                                                                                                                                                     |                                                                                                                                                                    |                                                                              |

|                                                                                                                        |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                    |                                                                              |
|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><u>15529</u>                                                                                            | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><u>10:39</u><br>Stop time (RC GUI):<br><u>11:40</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale:<br><u>239</u> k<br>SHMS prescale:<br><u>228</u> k<br>COIN pretrig: <u>230</u> k<br>$e-\pi n$ evts: <u>446</u><br>$\Sigma e-\pi n$ evts: <u>23795</u> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>48 <math>\mu</math>A</u><br><u>99.6, 93.3</u><br>$Q = 123.8 \text{ mC}$<br>$\Sigma Q = 6261.0 \text{ mC}$ |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                    |                                                                              |

|                                                                                                                        |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                    |                                                                              |
|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><u>15530</u>                                                                                            | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><u>11:40</u><br>Stop time (RC GUI):<br><u>12:38</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale:<br><u>207</u> k<br>SHMS prescale:<br><u>196</u> k<br>COIN pretrig: <u>201</u> k<br>$e-\pi n$ evts: <u>411</u><br>$\Sigma e-\pi n$ evts: <u>24206</u> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>48 <math>\mu</math>A</u><br><u>99.7, 93.5</u><br>$Q = 106.6 \text{ mC}$<br>$\Sigma Q = 6367.6 \text{ mC}$ |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                    |                                                                              |

|                                                                                                                                       |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                    |                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><u>15531</u>                                                                                                           | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><u>12:38</u><br>Stop time (RC GUI):<br><u>13:37</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale:<br><u>145</u> k<br>SHMS prescale:<br><u>136</u> k<br>COIN pretrig: <u>148</u> k<br>$e-\pi n$ evts: <u>312</u><br>$\Sigma e-\pi n$ evts: <u>24528</u> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>48 <math>\mu</math>A</u> <u>50 trps/h</u><br><u>99.7 95.0</u><br>$Q = 74.5 \text{ mC}$<br>$\Sigma Q = 6442.2 \text{ mC}$ |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                             |                                                                                                                                                     |                                                                                                                                                                    |                                                                              |

|                                                                                                                                       |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                             |                                                                                                                                          |                                                                                                                                                                |                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Run Number:<br><u>15532</u>                                                                                                           | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: <u>cer</u> / fadc | Start time (RC GUI):<br><u>13:37</u><br>Stop time (RC GUI):<br><u>14:37</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale:<br><u>44</u> k<br>SHMS prescale:<br><u>38</u> k<br>COIN pretrig: <u>44</u> k<br>$e-\pi n$ evts: <u>88</u><br>$\Sigma e-\pi n$ evts: <u>24616</u> | <input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>48 <math>\mu</math>A</u> <u>50 trps/h</u><br><u>99.9 96.5</u><br>$Q = 21.6 \text{ mC}$<br>$\Sigma Q = 6463.8 \text{ mC}$ |                                                                                                                                                                                                                                              |                                                                                                                                     |                                                                             |                                                                                                                                          |                                                                                                                                                                |                                                                              |



# p(e,e' $\pi$ )n Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22 / 7 / 15  
yy mm dd

Initials: mmo

## Continuation of Configuration:

$Q^2 = 6.0 \text{ GeV}^2$   $W = 3.9 \text{ GeV}$

This sheet is only to be used to continue a running configuration.

$\alpha = 0.39$  high t right SHMS

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                      |                                                                                                                                          |                                                              |                                                                      |                                                                                                       |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Run Number:<br><u>15533</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>14:37</u><br>Stop time (RC GUI):<br>_____ | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: _____ k<br>$e-\pi n$ evts:<br>_____ | SHMS prescale<br>pretrig: _____ k<br>$\Sigma e-\pi n$ evts:<br>_____ | COIN pretrig: _____ k<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
| Comments:<br><u>Junk</u>    |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                      |                                                                                                                                          |                                                              |                                                                      |                                                                                                       |

|                                                                           |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                            |                                                                                     |                                                                                                           |
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| Run Number:<br><u>15534</u>                                               | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>17:22</u><br>Stop time (RC GUI):<br><u>18:22</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale <u>49</u> k<br>pretrig: _____<br>$e-\pi n$ evts:<br><u>15</u> | SHMS prescale <u>21</u> k<br>pretrig: _____<br>$\Sigma e-\pi n$ evts:<br><u>148</u> | COIN pretrig: <u>25</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br><u>Dummy 10cm</u> $Q_T^{\text{Dummy}} = 515.98$ $Q = 59.837$ |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                            |                                                                                     |                                                                                                           |

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| Run Number:<br><u>15535</u>                                                | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>18:23</u><br>Stop time (RC GUI):<br><u>18:27</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS <u>116</u> k<br>prescale pretrig: _____<br>$e-\pi n$ evts:<br><u>45</u> | SHMS <u>50</u> k<br>prescale pretrig: _____<br>$\Sigma e-\pi n$ evts:<br><u>193</u> | COIN <u>55</u> k<br>pretrig: _____<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br><u>Dummy 10cm</u> $Q_T^{\text{Dummy}} = 656.49$ $Q = 140.515$ |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                             |                                                                                     |                                                                                                                    |

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| Run Number:<br><u>15536</u>                                                                              | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>19:40</u><br>Stop time (RC GUI):<br>_____ | <input type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale _____ k<br>pretrig: _____<br>$e-\pi n$ evts:<br>_____ | SHMS prescale _____ k<br>pretrig: _____<br>$\Sigma e-\pi n$ evts:<br>_____ | COIN _____ k<br>pretrig: _____<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
| Comments:<br><u>! Beam current was ~60 <math>\mu</math>A</u><br><u>SHMS Drift chamber HV Tripped OFF</u> |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                      |                                                                                                                    |                                                                    |                                                                            |                                                                                                                |

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| Run Number:<br><u>15537</u>                                                                | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>21:21</u><br>Stop time (RC GUI):<br><u>22:21</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS <u>287</u> k<br>prescale pretrig: _____<br>$e-\pi n$ evts:<br><u>549</u> | SHMS <u>277</u> k<br>prescale pretrig: _____<br>$\Sigma e-\pi n$ evts:<br><u>25165</u> | COIN <u>274</u> k<br>pretrig: _____<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br><u>42 <math>\mu</math>A</u> , <u>0.942/0.997</u> $Q_T = 6612.48$ $Q = 148.68$ |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                              |                                                                                        |                                                                                                                     |

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| Run Number:<br><u>15538</u>                                                                | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>5</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>22:22</u><br>Stop time (RC GUI):<br><u>23:22</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS <u>294</u> k<br>prescale pretrig: _____<br>$e-\pi n$ evts:<br><u>574</u> | SHMS <u>285</u> k<br>prescale pretrig: _____<br>$\Sigma e-\pi n$ evts:<br><u>25739</u> | COIN <u>284</u> k<br>pretrig: _____<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br><u>48 <math>\mu</math>A</u> , <u>0.934/0.997</u> $Q_T = 6765.1$ $Q = 152.617$ |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                              |                                                                                        |                                                                                                                     |



# $p(e, e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/7/16  
yy mm dd

Initials: BD

## Continuation of Configuration:

This sheet is only to be used to continue a running configuration.

$Q^2 = 6 \text{ GeV}^2$ ,  $X = 3.29$   
 $X = 0.39$ , high  $E$ , seems right

|                                |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |
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| Run Number:<br>15540           | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>23:22<br>Stop time (RC GUI):<br>00:13 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 219 k<br>$e-\pi n$ evts:<br>436 | SHMS prescale<br>pretrig: 206 k<br>$\Sigma e-\pi n$ evts:<br>26175 | COIN pretrig: 211 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:                      |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |
| $Q_T = 6875.777$ $Q = 110.677$ |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |

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| Run Number:<br>15541           | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>00:29 am<br>Stop time (RC GUI):<br>1:23 am | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 272 k<br>$e-\pi n$ evts:<br>535 | SHMS prescale<br>pretrig: 263 k<br>$\Sigma e-\pi n$ evts:<br>26710 | COIN pretrig: 265 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:                      |                                                                                                                                                                                                                                               |                                                                                    |                                                                    |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |
| $Q_T = 7016.939$ $Q = 191.162$ |                                                                                                                                                                                                                                               |                                                                                    |                                                                    |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |

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| Run Number:<br>15542           | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>1:23<br>Stop time (RC GUI):<br>2:22 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 2 k<br>$e-\pi n$ evts:<br>578 | SHMS prescale<br>pretrig: k<br>$\Sigma e-\pi n$ evts:<br>27288 | COIN pretrig: k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:                      |                                                                                                                                                                                                                                               |                                                                                    |                                                             |                                                                                                                                                     |                                                        |                                                                |                                                                                                 |
| $Q_T = 7169.983$ $Q = 153.049$ |                                                                                                                                                                                                                                               |                                                                                    |                                                             |                                                                                                                                                     |                                                        |                                                                |                                                                                                 |

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| Run Number:<br>15543         | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>2:23<br>Stop time (RC GUI):<br>2:55 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 106 k<br>$e-\pi n$ evts:<br>229 | SHMS prescale<br>pretrig: 102 k<br>$\Sigma e-\pi n$ evts:<br>27517 | COIN pretrig: 109 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:                    |                                                                                                                                                                                                                                               |                                                                                    |                                                             |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |
| $Q_T = 7224.623$ $Q = 59.64$ |                                                                                                                                                                                                                                               |                                                                                    |                                                             |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |

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| Run Number:<br>15544           | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>3:05<br>Stop time (RC GUI):<br>4:04 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 239 k<br>$e-\pi n$ evts:<br>476 | SHMS prescale<br>pretrig: 230 k<br>$\Sigma e-\pi n$ evts:<br>27993 | COIN pretrig: 235 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:                      |                                                                                                                                                                                                                                               |                                                                                    |                                                             |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |
| $Q_T = 7347.952$ $Q = 123.329$ |                                                                                                                                                                                                                                               |                                                                                    |                                                             |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |

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| Run Number:<br>15545           | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>4:05<br>Stop time (RC GUI):<br>5:04 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 221 k<br>$e-\pi n$ evts:<br>435 | SHMS prescale<br>pretrig: 211 k<br>$\Sigma e-\pi n$ evts:<br>28428 | COIN pretrig: 217 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:                      |                                                                                                                                                                                                                                               |                                                                                    |                                                             |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |
| $Q_T = 7462.181$ $Q = 114.229$ |                                                                                                                                                                                                                                               |                                                                                    |                                                             |                                                                                                                                                     |                                                          |                                                                    |                                                                                                     |



# p(e,e'π)n Run Sheet

can be found at lichen.phys.uregina.ca/~huberg/fpi/

Date: 22 / 7 / 16  
yy mm dd

Initials: BD

## Continuation of Configuration:

$Q^2 = 6 \text{ GeV}^2$ ,  $W = 3.19$

$X = 0.39$ , high  $E$ , smms right

This sheet is only to be used to continue a running configuration.

|                                                                                                                            |                                                                                                                                                                                                                                               |                                                                                     |                                                             |                                                                                                                                                     |                                                     |                                                              |                                                                                                     |
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| Run Number:<br><b>15596</b>                                                                                                | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: -1<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>5:05<br>Stop time (RC GUI):<br>6:09 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: 232 k<br>$e-\pi n$ evts: 4915 | SHMS prescale pretrig: 224 k<br>$\Sigma e-\pi n$ evts: 28842 | COIN pretrig: 232 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| <p style="text-align: center;"><math>Q_T = 7582.191</math> <span style="float: right;"><math>Q = 120.010</math></span></p> |                                                                                                                                                                                                                                               |                                                                                     |                                                             |                                                                                                                                                     |                                                     |                                                              |                                                                                                     |

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| Run Number:<br><b>15597</b>                                                                                                | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: -1<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>6:09<br>Stop time (RC GUI):<br>7:07 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: 318 k<br>$e-\pi n$ evts: 619 | SHMS prescale pretrig: 309 k<br>$\Sigma e-\pi n$ evts: 29461 | COIN pretrig: 310 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| <p style="text-align: center;"><math>Q_T = 7746.865</math> <span style="float: right;"><math>Q = 169.679</math></span></p> |                                                                                                                                                                                                                                               |                                                                                     |                                                             |                                                                                                                                                     |                                                    |                                                              |                                                                                                     |

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| Run Number:<br><b>15598</b>                                                                                               | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>7:08<br>Stop time (RC GUI):<br>8:06 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: 271 k<br>$e-\pi n$ evts: 560 | SHMS prescale pretrig: 269 k<br>$\Sigma e-\pi n$ evts: 30021 | COIN pretrig: 39 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| <p style="text-align: center;"><math>Q_T = 7886.83</math> <span style="float: right;"><math>Q = 139.965</math></span></p> |                                                                                                                                                                                                                                               |                                                                                    |                                                             |                                                                                                                                                     |                                                    |                                                              |                                                                                                    |

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| Run Number:<br><b>15599</b>                                                                                                | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 14<br>PS2: -1<br>PS3: -1<br>PS4: 5<br>PS5: -1<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>9:08<br>Stop time (RC GUI):<br>10:05 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: 278 k<br>$e-\pi n$ evts: 571 | SHMS prescale pretrig: 269 k<br>$\Sigma e-\pi n$ evts: 30592 | COIN pretrig: 272 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| <p style="text-align: center;"><math>Q_T = 8030.533</math> <span style="float: right;"><math>Q = 143.703</math></span></p> |                                                                                                                                                                                                                                               |                                                                                     |                                                              |                                                                                                                                                     |                                                    |                                                              |                                                                                                     |

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| Run Number:<br><b>15550</b>                                                                | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: -1<br>PS2: 13<br>PS3: -1<br>PS4: 5<br>PS5: -1<br>PS6: 0<br>Mode10: cer / fadc | Start time (RC GUI):<br>10:05<br>Stop time (RC GUI):<br>10:07 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale pretrig: k<br>$e-\pi n$ evts: | SHMS prescale pretrig: k<br>$\Sigma e-\pi n$ evts: | COIN pretrig: k<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
| <p style="text-align: center;"><math>\frac{3}{4}</math> run Didn't keep new pre-scales</p> |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                          |                                            |                                                    |                                                                                                 |

|                                                      |                                                                                                                                                                                                                                               |                                                                                   |                                                      |                                                                                                                                          |                                            |                                                    |                                                                                                 |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15551</b>                          | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 4<br>PS2: 13<br>PS3: -1<br>PS4: 5<br>PS5: -1<br>PS6: 0<br>Mode10: cer / fadc | Start time (RC GUI):<br>10:07<br>Stop time (RC GUI): | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale pretrig: k<br>$e-\pi n$ evts: | SHMS prescale pretrig: k<br>$\Sigma e-\pi n$ evts: | COIN pretrig: k<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
| <p style="text-align: center;">Wrongy pre-scales</p> |                                                                                                                                                                                                                                               |                                                                                   |                                                      |                                                                                                                                          |                                            |                                                    |                                                                                                 |



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/07/16  
yy mm dd

Initials: EW

## Continuation of Configuration:

$Q^2 = 6 \text{ GeV}^2$ ,  $w = 3.19$   
 $x = 0.39$ , high  $E$ , SHMS right

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                               |                                                                                                                                |                                                                             |                                                                                                                                                     |                                                                   |                                                                                  |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15552</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>-1</u><br>PS5: <u>-1</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>10:12</u><br>Stop time (RC GUI):<br><u>11:09</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: _____ k<br>$e-\pi n$ evts:<br><u>499</u> | SHMS prescale<br>pretrig: <u>270</u> k<br>$\Sigma e-\pi n$ evts:<br><u>31091</u> | COIN pretrig: <u>273</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|

Comments:

$3/4$  run

$Q_T = 8174.689$

$Q = 144.156$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15553</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>-1</u><br>PS5: <u>-1</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>11:11</u><br>Stop time (RC GUI):<br><u>12:12</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>319</u> k<br>$e-\pi n$ evts:<br><u>619</u> | SHMS prescale<br>pretrig: <u>310</u> k<br>$\Sigma e-\pi n$ evts:<br><u>31710</u> | COIN pretrig: <u>311</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|

Comments:

$Q_T = 8339.658$

$Q = 164.969$

|                             |                                                                                                                                                                                                                                               |                                                                                                                                |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                            |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Run Number:<br><b>15554</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>14</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>-1</u><br>PS5: <u>-1</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>12:13</u><br>Stop time (RC GUI):<br><u>13:13</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>302</u> k<br>$e-\pi n$ evts:<br><u>600</u> | SHMS prescale<br>pretrig: <u>292</u> k<br>$\Sigma e-\pi n$ evts:<br><u>32310</u> | COIN pretrig: <u>294</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|

Comments:

$Q_T = 8495.926$

$Q = 156.268$

|             |                                                                                                                                                                                                                                    |                                                                                                        |                                                         |                                                                                                                    |                                                     |                                                             |                                                                                            |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Run Number: | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: _____<br>PS2: _____<br>PS3: _____<br>PS4: _____<br>PS5: _____<br>PS6: _____<br>Mode10: cer / fadc | Start time (RC GUI):<br><br>Stop time (RC GUI):<br><br> | <input type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: _____ k<br>$e-\pi n$ evts: | SHMS prescale<br>pretrig: _____ k<br>$\Sigma e-\pi n$ evts: | COIN pretrig: _____ k<br><input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|

Comments:

|             |                                                                                                                                                                                                                                    |                                                                                                        |                                                         |                                                                                                                    |                                                     |                                                             |                                                                                            |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Run Number: | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: _____<br>PS2: _____<br>PS3: _____<br>PS4: _____<br>PS5: _____<br>PS6: _____<br>Mode10: cer / fadc | Start time (RC GUI):<br><br>Stop time (RC GUI):<br><br> | <input type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: _____ k<br>$e-\pi n$ evts: | SHMS prescale<br>pretrig: _____ k<br>$\Sigma e-\pi n$ evts: | COIN pretrig: _____ k<br><input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|

Comments:

|             |                                                                                                                                                                                                                                    |                                                                                                        |                                                         |                                                                                                                    |                                                     |                                                             |                                                                                            |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Run Number: | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: _____<br>PS2: _____<br>PS3: _____<br>PS4: _____<br>PS5: _____<br>PS6: _____<br>Mode10: cer / fadc | Start time (RC GUI):<br><br>Stop time (RC GUI):<br><br> | <input type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: _____ k<br>$e-\pi n$ evts: | SHMS prescale<br>pretrig: _____ k<br>$\Sigma e-\pi n$ evts: | COIN pretrig: _____ k<br><input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------|

Comments:



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22 / 07 / 16  
yy mm dd

Initials: EW

Use a separate sheet for each configuration.

Configuration Name: \_\_\_\_\_

$Q^2 = 6.00$ ,  $w = 3.19$

$x = 0.39$ , high E, SHMS Left

E<sub>beam</sub>: 10.54 GeV I<sub>beam</sub>: 60  $\mu$ A

Purpose:

- ☒ Production  
☐ Test (e.g. DAQ, Detector)  
☐ Optics (SHMS / HMS)  
☐ Other: \_\_\_\_\_

Raster: ☒ On ☐ Off  
Size: 2mm x 2mm

Beam position and angle on target:

|        |          |          |
|--------|----------|----------|
| 3H07A  | X        | Y        |
|        | -0.10 mm | -0.30 mm |
| Nomin: |          |          |
| 3H07C  | X        | Y        |
|        | -0.72 mm | -0.51 mm |
| Nomin: |          |          |

HMS

SHMS

|    |                                                                                                         |                                                        |    |
|----|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----|
| Q1 | I-SET (from PSU)<br>312, 3650 A<br>B-HALL<br>0.41120 T                                                  | I-SET (from PSU)<br>2748.50 A<br>B-HALL<br>-12.371 kG  | HB |
| Q2 | I-SET (from PSU)<br>248.3120 A<br>B-HALL<br>-0.46388 T                                                  | I-SET (from PSU)<br>1696.7700 A<br>B-HALL<br>12.039 kG | Q1 |
| Q3 | I-SET (from PSU)<br>120.6960 A<br>B-HALL<br>0.23850 T                                                   | I-SET (from PSU)<br>2833.8 A<br>B-HALL<br>-26.706 kG   | Q2 |
| D  | I-READ<br>734.095 A<br>B-NMR<br>0.65647 T                                                               | I-SET (from PSU)<br>1864.61 A<br>B-HALL<br>-17.892 kG  | Q3 |
|    | If momentum increased:<br><input type="checkbox"/> HMS cycled?<br><input type="checkbox"/> SHMS cycled? |                                                        | D  |

Run Number:

15555

- ☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 11  
PS2: -1  
PS3: -1  
PS4: 6  
PS5: -9  
PS6: -1  
Mode10: cer / fadc

Start time (RC GUI):

13:37

Stop time (RC GUI):

14:34

- ☒ Settings Verified?  
☒ HV OK?  
☒ 50k OK?

HMS prescale  
pretrig: 141 k

$e-\pi n$  evts:  
486

SHMS prescale  
pretrig: 196 k

$\Sigma e-\pi n$  evts:  
486

COIN pretrig: 69 k

- ☒ Data ok  
☐ Junk

Comments:

started at 50 mA ramping up to 70 mA (more stable at 65 mA)

$Q = 142.644$

Run Number:

15556

- ☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 11  
PS2: -1  
PS3: -1  
PS4: 6  
PS5: -1  
PS6: -1  
Mode10: cer / fadc

Start time (RC GUI):

14:36:15

Stop time (RC GUI):

14:41:06

- ☒ Settings Verified?  
☒ HV OK?  
☐ 50k OK?

HMS prescale  
pretrig: \_\_\_\_\_ k

$e-\pi n$  evts: \_\_\_\_\_

SHMS prescale  
pretrig: \_\_\_\_\_ k

$\Sigma e-\pi n$  evts: \_\_\_\_\_

COIN pretrig: \_\_\_\_\_ k

- ☐ Data ok  
☐ Junk

Comments:

fadc mode 10 run

Run Number:

15557

- ☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 11  
PS2: -1  
PS3: -1  
PS4: 6  
PS5: 6  
PS6: -1  
Mode10: cer / fadc

Start time (RC GUI):

14:41

Stop time (RC GUI):

15:34

- ☒ Settings Verified?  
☒ HV OK?  
☒ 50k OK?

HMS prescale  
pretrig: 77 k

$e-\pi n$  evts:  
282

SHMS prescale  
pretrig: 105 k

$\Sigma e-\pi n$  evts:  
768

COIN pretrig: 50 k

- ☒ Data ok  
☐ Junk

Comments:

No beam for last ~18 minutes  $Q_T = 219.592$

$Q = 76.948$

Run Number:

15558

- ☒ LH2 10cm  
☐ LD2 10cm  
☐ Dummy 10cm  
☐ C 0.5% r.l.  
☐ Optics \_\_\_\_ cm  
☐ \_\_\_\_\_

PS1: 11  
PS2: -1  
PS3: -1  
PS4: 6  
PS5: -1  
PS6: -1  
Mode10: cer / fadc

Start time (RC GUI):

15:38

Stop time (RC GUI):

16:18

- ☒ Settings Verified?  
☒ HV OK?  
☒ 50k OK?

HMS prescale  
pretrig: 38 k

$e-\pi n$  evts:  
131

SHMS prescale  
pretrig: 50 k

$\Sigma e-\pi n$  evts:  
899

COIN pretrig: 32 k

- ☒ Data ok  
☐ Junk

Comments:

Efficiencies! HMS: 0.997 SHMS: 0.990  $Q_T = 257.185$

$Q = 37.593$



# $p(e, e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/07/16  
yy mm dd

Initials: MS

## Continuation of Configuration:

$Q^2 = 6.00$ ,  $w = 3.19$

$x = 0.39$ , high E, SHMS right Left

This sheet is only to be used to continue a running configuration.

|                                           |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                         |                                                                   |                                                                                                    |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15559                      | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 8<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>17:21<br>Stop time (RC GUI):<br>18:21 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 95 k<br>$e-\pi n$ evts:<br>331 | SHMS prescale<br>pretrig: 130 k<br>$\Sigma e-\pi n$ evts:<br>1230 | COIN pretrig: 58 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: Happy beam from incoming storm. |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                         |                                                                   |                                                                                                    |
| $Q_T = 352.54$ $Q = 95.358$               |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                         |                                                                   |                                                                                                    |

|                                                                  |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                        |                                                                  |                                                                                                    |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15560                                             | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 8<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>18:22<br>Stop time (RC GUI):<br>18:37 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 27 k<br>$e-\pi n$ evts:<br>91 | SHMS prescale<br>pretrig: 37 k<br>$\Sigma e-\pi n$ evts:<br>1321 | COIN pretrig: 16 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: Stopped early due to incoming storms. Beam taken away. |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                        |                                                                  |                                                                                                    |
| $Q_T = 379.649$ $Q = 27.109$                                     |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                        |                                                                  |                                                                                                    |

|                                                                         |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                   |                                                                                                    |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15561                                                    | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 8<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>23:12<br>Stop time (RC GUI):<br>00:09 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 142 k<br>$e-\pi n$ evts:<br>529 | SHMS prescale<br>pretrig: 200 k<br>$\Sigma e-\pi n$ evts:<br>1850 | COIN pretrig: 70 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: Beam current (65kA - 70kA) Now including events from 22/07/11 |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                   |                                                                                                    |
| $Q_T = 522.945$ $Q = 143.296$                                           |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                   |                                                                                                    |

|                                                           |                                                                                                                                                                                                             |                                                                                    |                                                              |                                                                                                                                                     |                                                          |                                                                   |                                                                                                    |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15562                                      | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 9<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>00:10<br>Stop time (RC GUI):<br>1:08 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 173 k<br>$e-\pi n$ evts:<br>623 | SHMS prescale<br>pretrig: 249 k<br>$\Sigma e-\pi n$ evts:<br>3485 | COIN pretrig: 78 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: Beam (65kA - 70kA) * missed run 15461 added now |                                                                                                                                                                                                             |                                                                                    |                                                              |                                                                                                                                                     |                                                          |                                                                   |                                                                                                    |
| $Q_T = 975.967$ $Q = 175.489$                             |                                                                                                                                                                                                             |                                                                                    |                                                              |                                                                                                                                                     |                                                          |                                                                   |                                                                                                    |

|                                |                                                                                                                                                                                                             |                                                                                    |                                                             |                                                                                                                                                     |                                                          |                                                                   |                                                                                                    |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15563           | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 9<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>1:09<br>Stop time (RC GUI):<br>2:09 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 138 k<br>$e-\pi n$ evts:<br>480 | SHMS prescale<br>pretrig: 194 k<br>$\Sigma e-\pi n$ evts:<br>4247 | COIN pretrig: 71 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: Beam (65-70kA)       |                                                                                                                                                                                                             |                                                                                    |                                                             |                                                                                                                                                     |                                                          |                                                                   |                                                                                                    |
| $Q_T = 1199.079$ $Q = 139.092$ |                                                                                                                                                                                                             |                                                                                    |                                                             |                                                                                                                                                     |                                                          |                                                                   |                                                                                                    |

|                               |                                                                                                                                                                                                             |                                                                                    |                                                             |                                                                                                                                                     |                                                         |                                                                   |                                                                                                    |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Run Number:<br>15564          | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 9<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>2:09<br>Stop time (RC GUI):<br>2:48 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 88 k<br>$e-\pi n$ evts:<br>339 | SHMS prescale<br>pretrig: 125 k<br>$\Sigma e-\pi n$ evts:<br>4586 | COIN pretrig: 46 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:                     |                                                                                                                                                                                                             |                                                                                    |                                                             |                                                                                                                                                     |                                                         |                                                                   |                                                                                                    |
| $Q_T = 1288.127$ $Q = 89.048$ |                                                                                                                                                                                                             |                                                                                    |                                                             |                                                                                                                                                     |                                                         |                                                                   |                                                                                                    |



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22 / 7 / 17  
yy mm dd

Initials: BD

## Continuation of Configuration:

$Q=6$ ,  $W=3.19$ ,  $X=0.39$   
high  $E$ , SHMS left

This sheet is only to be used to  
continue a running configuration.

|                                |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                           |
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| Run Number:<br><u>15565</u>    | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>2:59</u><br>Stop time (RC GUI):<br><u>3:59</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>142</u> k<br>$e-\pi n$ evts:<br><u>503</u> | SHMS prescale<br>pretrig: <u>202</u> k<br>$\Sigma e-\pi n$ evts:<br><u>5089</u> | COIN pretrig: <u>73</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q_T = 1932.166$ $Q = 199.039$ |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                           |

|                                |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                           |
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| Run Number:<br><u>15566</u>    | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>4:00</u><br>Stop time (RC GUI):<br><u>4:56</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>145</u> k<br>$e-\pi n$ evts:<br><u>549</u> | SHMS prescale<br>pretrig: <u>207</u> k<br>$\Sigma e-\pi n$ evts:<br><u>5638</u> | COIN pretrig: <u>72</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q_T = 1578.782$ $Q = 146.616$ |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                           |

|                                |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                           |
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| Run Number:<br><u>15567</u>    | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>4:57</u><br>Stop time (RC GUI):<br><u>5:56</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>149</u> k<br>$e-\pi n$ evts:<br><u>486</u> | SHMS prescale<br>pretrig: <u>204</u> k<br>$\Sigma e-\pi n$ evts:<br><u>6129</u> | COIN pretrig: <u>73</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q_T = 1729.225$ $Q = 195.493$ |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                           |

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| Run Number:<br><u>15568</u>    | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>5:56</u><br>Stop time (RC GUI):<br><u>6:55</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>169</u> k<br>$e-\pi n$ evts:<br><u>632</u> | SHMS prescale<br>pretrig: <u>229</u> k<br>$\Sigma e-\pi n$ evts:<br><u>6756</u> | COIN pretrig: <u>75</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q_T = 1889.568$ $Q = 165.393$ |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                           |

|                               |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                       |                                                                                |                                                                                                           |
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| Run Number:<br><u>15569</u>   | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>6:55</u><br>Stop time (RC GUI):<br><u>7:27</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>68</u> k<br>$e-\pi n$ evts:<br><u>242</u> | SHMS prescale<br>pretrig: <u>99</u> k<br>$\Sigma e-\pi n$ evts:<br><u>6998</u> | COIN pretrig: <u>35</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q_T = 1957.516$ $Q = 67.948$ |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                       |                                                                                |                                                                                                           |

|                                |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                           |
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| Run Number:<br><u>15570</u>    | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>7:57</u><br>Stop time (RC GUI):<br><u>9:00</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>188</u> k<br>$e-\pi n$ evts:<br><u>675</u> | SHMS prescale<br>pretrig: <u>264</u> k<br>$\Sigma e-\pi n$ evts:<br><u>7673</u> | COIN pretrig: <u>84</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q = 190.256$ $Q_T = 2147.772$ |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                 |                                                                                                           |



# $p(e, e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22 / 7 / 17  
yy mm dd

Initials: AS

## Continuation of Configuration:

$Q^2 = 6$ ,  $W = 3.19$  high  $z$   
SHMS 64

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                            |                                                                                                                                                     |                                                                                                                                         |                                                                                                           |
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| Run Number:<br><u>15571</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>9:01</u><br>Stop time (RC GUI):<br><u>10:03</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>175</u> k<br>SHMS prescale<br><u>245</u> k<br>$e-\pi n$ evts:<br><u>621</u><br>$\Sigma e-\pi n$ evts:<br><u>8294</u> | COIN pretrig: <u>81</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 176.768$   $Q_{TOT} = 2324.54$

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                                                                                         |                                                                                                           |
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| Run Number:<br><u>15572</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>10:03</u><br>Stop time (RC GUI):<br><u>10:59</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>119</u> k<br>SHMS prescale<br><u>166</u> k<br>$e-\pi n$ evts:<br><u>411</u><br>$\Sigma e-\pi n$ evts:<br><u>8705</u> | COIN pretrig: <u>62</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 119.228$   $Q_{TOT} = 2443.768$

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                                                                                         |                                                                                                           |
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| Run Number:<br><u>15573</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>11:08</u><br>Stop time (RC GUI):<br><u>12:08</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>148</u> k<br>SHMS prescale<br><u>207</u> k<br>$e-\pi n$ evts:<br><u>514</u><br>$\Sigma e-\pi n$ evts:<br><u>9219</u> | COIN pretrig: <u>73</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 149.253$   $Q_{TOT} = 2593.001$

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                          |                                                                                                  |                                                                                                 |
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| Run Number:<br><u>15574</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>12:09</u><br>Stop time (RC GUI):<br><u>12:17</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale<br>k<br>SHMS prescale<br>k<br>$e-\pi n$ evts:<br><br>$\Sigma e-\pi n$ evts:<br><br> | COIN pretrig: k<br><input type="checkbox"/> Data ok<br><input checked="" type="checkbox"/> Junk |
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only a couple minutes long JUNK

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                                                                                         |                                                                                                           |
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| Run Number:<br><u>15575</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>12:26</u><br>Stop time (RC GUI):<br><u>13:25</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>124</u> k<br>SHMS prescale<br><u>171</u> k<br>$e-\pi n$ evts:<br><u>449</u><br>$\Sigma e-\pi n$ evts:<br><u>9668</u> | COIN pretrig: <u>65</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 124.622$   $Q_{TOT} = 2717.643$

|                             |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                                                                                           |                                                                                                           |
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| Run Number:<br><u>15576</u> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>9</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>13:26</u><br>Stop time (RC GUI):<br><u>14:27</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>108</u> k<br>SHMS prescale<br><u>136</u> k<br>$e-\pi n$ evts:<br><u>364</u><br>$\Sigma e-\pi n$ evts:<br><u>10,032</u> | COIN pretrig: <u>56</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 107.904$   $Q_{TOT} = 2825.547$



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/7/17  
yy mm dd

Initials: DS

## Continuation of Configuration:

$Q^2 = 6$ ,  $W = 3.19$  high  $\Sigma$   
SHMS left

This sheet is only to be used to continue a running configuration.

|                      |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                     |                                                                                                       |
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| Run Number:<br>15577 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -3<br>Mode10: cer / fadc | Start time (RC GUI):<br>14:28<br>Stop time (RC GUI):<br>15:34 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 132 k<br>$e-\pi n$ evts:<br>459 | SHMS prescale<br>pretrig: 178 k<br>$\Sigma e-\pi n$ evts:<br>10,491 | COIN<br>pretrig: 69 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 132.247$   $Q_{tot} = 2957.794$

|                      |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                     |                                                                                                       |
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| Run Number:<br>15578 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -3<br>Mode10: cer / fadc | Start time (RC GUI):<br>15:34<br>Stop time (RC GUI):<br>16:30 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 150 k<br>$e-\pi n$ evts:<br>529 | SHMS prescale<br>pretrig: 209 k<br>$\Sigma e-\pi n$ evts:<br>11,020 | COIN<br>pretrig: 69 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 151.934$   $Q_{tot} = 3109.73$

|                      |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                     |                                                                                                       |
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| Run Number:<br>15579 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>16:30<br>Stop time (RC GUI):<br>17:33 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 113 k<br>$e-\pi n$ evts:<br>382 | SHMS prescale<br>pretrig: 154 k<br>$\Sigma e-\pi n$ evts:<br>11,402 | COIN<br>pretrig: 63 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 113.219$   $Q_{tot} = 3222.949$

|                      |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                    |                                                                                                       |
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| Run Number:<br>15580 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>17:33<br>Stop time (RC GUI):<br>18:31 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 181 k<br>$e-\pi n$ evts:<br>642 | SHMS prescale<br>pretrig: 253 k<br>$\Sigma e-\pi n$ evts:<br>12044 | COIN<br>pretrig: 79 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 183.170$   $Q_{tot} = 3406.119$

|                      |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                    |                                                                                                       |
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| Run Number:<br>15581 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>18:32<br>Stop time (RC GUI):<br>19:35 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 166 k<br>$e-\pi n$ evts:<br>559 | SHMS prescale<br>pretrig: 230 k<br>$\Sigma e-\pi n$ evts:<br>12603 | COIN<br>pretrig: 78 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 167$   $Q_{tot} = 3573.208$

|                      |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                          |                                                                    |                                                                                                       |
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| Run Number:<br>15582 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>19:35<br>Stop time (RC GUI):<br>20:32 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: 158 k<br>$e-\pi n$ evts:<br>545 | SHMS prescale<br>pretrig: 220 k<br>$\Sigma e-\pi n$ evts:<br>13148 | COIN<br>pretrig: 72 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q = 160.068$   $Q_{tot} = 3733.276$



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/07/17  
yy mm dd

Initials: Cam

## Continuation of Configuration:

$Q^2=6$ ,  $W=3.19$ , high- $E$   
SHMS-Left

This sheet is only to be used to continue a running configuration.

|                             |                                                                                                                                                                                                                                              |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                              |
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| Run Number:<br><b>15583</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>20:33</u><br>Stop time (RC GUI):<br><u>21:33</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>176</u> k<br>$e-\pi n$ evts:<br><u>637</u> | SHMS prescale<br>pretrig: <u>245</u> k<br>$\Sigma e-\pi n$ evts:<br><u>13785</u> | COIN<br>pretrig: <u>79</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q=177.320$  ;  $Q_{Tot}=3910.596$

|                             |                                                                                                                                                                                                                                              |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                         |                                                                                  |                                                                                                              |
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| Run Number:<br><b>15584</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>8</u><br>PS4: <u>-1</u><br>PS5: <u>-1</u><br>PS6: <u>0</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>21:39</u><br>Stop time (RC GUI):<br><u>22:19</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>3359</u> k<br>$e-\pi n$ evts:<br><u>358</u> | SHMS prescale<br>pretrig: <u>142</u> k<br>$\Sigma e-\pi n$ evts:<br><u>14143</u> | COIN<br>pretrig: <u>49</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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HMS 3/4 Trigger Run.

$Q=102.682$  ;  $Q_{Tot}=4013.278$

|                             |                                                                                                                                                                                                                                              |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                              |
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| Run Number:<br><b>15585</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>22:24</u><br>Stop time (RC GUI):<br><u>23:26</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>158</u> k<br>$e-\pi n$ evts:<br><u>559</u> | SHMS prescale<br>pretrig: <u>220</u> k<br>$\Sigma e-\pi n$ evts:<br><u>14702</u> | COIN<br>pretrig: <u>70</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q=159.168$  ;  $Q_{Tot}=4172.446$

|                             |                                                                                                                                                                                                                                              |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                              |
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| Run Number:<br><b>15586</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>23:28</u><br>Stop time (RC GUI):<br><u>00:29</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>175</u> k<br>$e-\pi n$ evts:<br><u>619</u> | SHMS prescale<br>pretrig: <u>244</u> k<br>$\Sigma e-\pi n$ evts:<br><u>15321</u> | COIN<br>pretrig: <u>80</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q=176.265$  ;  $Q_{Tot}=4348.711$

|                             |                                                                                                                                                                                                                                              |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                              |
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| Run Number:<br><b>15587</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>00:30</u><br>Stop time (RC GUI):<br><u>01:34</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>181</u> k<br>$e-\pi n$ evts:<br><u>647</u> | SHMS prescale<br>pretrig: <u>252</u> k<br>$\Sigma e-\pi n$ evts:<br><u>15968</u> | COIN<br>pretrig: <u>82</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q=182.588$  ;  $Q_{Tot}=4531.299$

|                             |                                                                                                                                                                                                                                              |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                              |
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| Run Number:<br><b>15588</b> | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>1:34</u><br>Stop time (RC GUI):<br><u>2:34</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>171</u> k<br>$e-\pi n$ evts:<br><u>658</u> | SHMS prescale<br>pretrig: <u>239</u> k<br>$\Sigma e-\pi n$ evts:<br><u>15626</u> | COIN<br>pretrig: <u>77</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
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$Q=172.941$  ;  $Q_{Tot}=4704.240$



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22 / 7 / 18  
yy mm dd

Initials: MA

## Continuation of Configuration:

$Q^2 = 6$ ;  $W = 3.19$ ; high  $E$   
SHMS = Left

This sheet is only to be used to continue a running configuration.

|                                      |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |
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| Run Number:<br>15589                 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>02:34<br>Stop time (RC GUI):<br>03:33 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 146 k<br>pretrig:<br>$e-\pi n$ evts: 580 | SHMS prescale 201 k<br>pretrig:<br>$\Sigma e-\pi n$ evts: 18206 | COIN pretrig: 70 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q = 147.039$ ; $Q_{tot} = 4851.279$ |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |

|                                      |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |
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| Run Number:<br>15590                 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>03:34<br>Stop time (RC GUI):<br>04:33 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 160 k<br>pretrig:<br>$e-\pi n$ evts: 599 | SHMS prescale 221 k<br>pretrig:<br>$\Sigma e-\pi n$ evts: 18805 | COIN pretrig: 74 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q = 160.875$ ; $Q_{tot} = 5012.154$ |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |

|                                      |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |
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| Run Number:<br>15591                 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>04:34<br>Stop time (RC GUI):<br>05:33 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 185 k<br>pretrig:<br>$e-\pi n$ evts: 657 | SHMS prescale 259 k<br>pretrig:<br>$\Sigma e-\pi n$ evts: 18462 | COIN pretrig: 81 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q = 187.000$ ; $Q_{tot} = 5199.154$ |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |

|                                      |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |
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| Run Number:<br>15592                 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>05:34<br>Stop time (RC GUI):<br>06:33 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 172 k<br>pretrig:<br>$e-\pi n$ evts: 595 | SHMS prescale 240 k<br>pretrig:<br>$\Sigma e-\pi n$ evts: 18057 | COIN pretrig: 78 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q = 172.951$ ; $Q_{tot} = 5372.109$ |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |

|                                      |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |
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| Run Number:<br>15593                 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>06:34<br>Stop time (RC GUI):<br>07:33 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 173 k<br>pretrig:<br>$e-\pi n$ evts: 608 | SHMS prescale 242 k<br>pretrig:<br>$\Sigma e-\pi n$ evts: 18665 | COIN pretrig: 78 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q = 174.925$ ; $Q_{tot} = 5547.030$ |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |

|                                    |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |
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| Run Number:<br>15594               | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>07:34<br>Stop time (RC GUI):<br>08:34 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale 163 k<br>pretrig:<br>$e-\pi n$ evts: 588 | SHMS prescale 226 k<br>pretrig:<br>$\Sigma e-\pi n$ evts: 19253 | COIN pretrig: 75 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| $Q = 164.0$ $\Sigma Q = 5711.0$ mC |                                                                                                                                                                                                             |                                                                                    |                                                               |                                                                                                                                                     |                                                       |                                                                 |                                                                                                    |



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/7/18  
yy mm dd

Initials: MMD

## Continuation of Configuration:

$Q=36 \text{ GeV}^2$ ,  $W=319 \text{ GeV}$  high  $\epsilon$   
 $2c=0.39$  SHMS left

This sheet is only to be used to continue a running configuration.

|                                                                                                                         |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                           |
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| Run Number:<br><b>15595</b>                                                                                             | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>8:34</u><br>Stop time (RC GUI):<br><u>9:46</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>174</u> k<br>$e-\pi n$ evts:<br><u>664</u> | SHMS prescale<br>pretrig: <u>242</u> k<br>$\Sigma e-\pi n$ evts:<br><u>20917</u> | COIN pretrig: <u>43</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>64 mA</u> <u>99.9, 98.5</u> <u><math>Q=175.3 \text{ mC}</math> <math>\Sigma Q=5885.8 \text{ mC}</math></u> |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                           |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                           |

|                                                                                                                         |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                            |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                           |
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| Run Number:<br><b>15596</b>                                                                                             | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>9:46</u><br>Stop time (RC GUI):<br><u>10:33</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>124</u> k<br>$e-\pi n$ evts:<br><u>451</u> | SHMS prescale<br>pretrig: <u>172</u> k<br>$\Sigma e-\pi n$ evts:<br><u>21368</u> | COIN pretrig: <u>58</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>64 mA</u> <u>99.8, 98.7</u> <u><math>Q=124.9 \text{ mC}</math> <math>\Sigma Q=6010.7 \text{ mC}</math></u> |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                            |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                           |

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| Run Number:<br><b>15597</b>                                                                                             | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>10:33</u><br>Stop time (RC GUI):<br><u>11:40</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>161</u> k<br>$e-\pi n$ evts:<br><u>539</u> | SHMS prescale<br>pretrig: <u>224</u> k<br>$\Sigma e-\pi n$ evts:<br><u>21907</u> | COIN pretrig: <u>80</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>64 mA</u> <u>99.2, 98.4</u> <u><math>Q=161.6 \text{ mC}</math> <math>\Sigma Q=6172.3 \text{ mC}</math></u> |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                           |

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| Run Number:<br><b>15598</b>                                                                                                                                            | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>11:40</u><br>Stop time (RC GUI):<br><del>12:35</del> <u>12:35</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>116</u> k<br>$e-\pi n$ evts:<br><u>396</u> | SHMS prescale<br>pretrig: <u>160</u> k<br>$\Sigma e-\pi n$ evts:<br><u>22303</u> | COIN pretrig: <u>61</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>67 mA, beam development</u><br><u>trippy, low current</u> <u>99.4 97.6</u> <u><math>Q=116.9 \text{ mC}</math> <math>\Sigma Q=6289.2 \text{ mC}</math></u> |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                                              |                                                                                                                                                     |                                                                        |                                                                                  |                                                                                                           |

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| Run Number:<br><b>15599</b>                                                                                            | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>12:35</u><br>Stop time (RC GUI):<br><u>12:55</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>20</u> k<br>$e-\pi n$ evts:<br><u>54</u> | SHMS prescale<br>pretrig: <u>27</u> k<br>$\Sigma e-\pi n$ evts:<br><u>22357</u> | COIN pretrig: <u>16</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>trippy</u> <u>99.8 98.3</u> <u><math>Q=20.0 \text{ mC}</math> <math>\Sigma Q=6309.3 \text{ mC}</math></u> |                                                                                                                                                                                                                                               |                                                                                                                              |                                                                             |                                                                                                                                                     |                                                                      |                                                                                 |                                                                                                           |

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| Run Number:<br><b>15600</b>                                                                                           | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: <u>8</u><br>PS2: <u>-1</u><br>PS3: <u>-1</u><br>PS4: <u>4</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>13:02</u><br>Stop time (RC GUI):<br><u>13:57</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>pretrig: <u>159</u> k<br>$e-\pi n$ evts:<br><u>28</u> | SHMS prescale<br>pretrig: <u>237</u> k<br>$\Sigma e-\pi n$ evts:<br><u>28</u> | COIN pretrig: <u>33</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <u>40 mA</u> <u>99.7 99.0</u> <u><math>Q=101.3 \text{ mC}</math> <math>\Sigma Q=101.3 \text{ mC}</math></u> |                                                                                                                                                                                                                                               |                                                                                                                             |                                                                             |                                                                                                                                                     |                                                                       |                                                                               |                                                                                                           |



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22 / 7 / 18  
yy mm dd

Initials: MMD

## Continuation of Configuration:

$Q^2 = 6 \text{ GeV}^2$   $W = 3.19 \text{ GeV}$  high

$\alpha = 0.39$  slms left

This sheet is only to be used to continue a running configuration.

|                                                                                                                                                                       |                                                                                                                                                                                                             |                                                                                                                            |                                                                             |                                                                                                                                                     |                                                                                                                                      |                                                                                                           |
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| Run Number:<br><b>15601</b>                                                                                                                                           | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: <u>8</u><br>PS2: <u>-1</u><br>PS3: <u>1</u><br>PS4: <u>4</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>13:58</u><br>Stop time (RC GUI):<br><u>15:00</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>204</u> k<br>SHMS prescale<br><u>306</u> k<br>$e-\pi n$ evts:<br><u>23</u><br>$\Sigma e-\pi n$ evts:<br><u>51</u> | COIN pretrig: <u>40</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <b>40 mA</b> <span style="margin-left: 100px;">99.6 94.5</span> <span style="margin-left: 100px;"><math>Q_T = 231.92</math> <math>Q = 130.6^2</math></span> |                                                                                                                                                                                                             |                                                                                                                            |                                                                             |                                                                                                                                                     |                                                                                                                                      |                                                                                                           |

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| Run Number:<br><b>15602</b>                                                                                                                                             | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: <u>8</u><br>PS2: <u>-1</u><br>PS3: <u>1</u><br>PS4: <u>4</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>15:00</u><br>Stop time (RC GUI):<br><u>16:04</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>200</u> k<br>SHMS prescale<br><u>300</u> k<br>$e-\pi n$ evts:<br><u>26</u><br>$\Sigma e-\pi n$ evts:<br><u>77</u> | COIN pretrig: <u>38</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <b>40 mA</b> <span style="margin-left: 100px;">100.0 97.9</span> <span style="margin-left: 100px;"><math>Q_T = 359.766</math> <math>Q = 127.846</math></span> |                                                                                                                                                                                                             |                                                                                                                            |                                                                             |                                                                                                                                                     |                                                                                                                                      |                                                                                                           |

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| Run Number:<br><b>15603</b>                                                                                                                                                | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: <u>8</u><br>PS2: <u>-1</u><br>PS3: <u>1</u><br>PS4: <u>4</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>16:04</u><br>Stop time (RC GUI):<br><u>16:59</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>154</u> k<br>SHMS prescale<br><u>230</u> k<br>$e-\pi n$ evts:<br><u>24</u><br>$\Sigma e-\pi n$ evts:<br><u>101</u> | COIN pretrig: <u>35</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <b>Dummy 40 mA</b> <span style="margin-left: 100px;">99.2 99.2</span> <span style="margin-left: 100px;"><math>Q_T = 220.32</math> <math>Q = 97.886</math></span> |                                                                                                                                                                                                             |                                                                                                                            |                                                                             |                                                                                                                                                     |                                                                                                                                       |                                                                                                           |

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| Run Number:<br><b>15604</b>                                                                                                                                               | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>17:10</u><br>Stop time (RC GUI):<br><u>18:10</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>167</u> k<br>SHMS prescale<br><u>232</u> k<br>$e-\pi n$ evts:<br><u>631</u><br>$\Sigma e-\pi n$ evts:<br><u>22988</u> | COIN pretrig: <u>76</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <b>LH2 65 mA</b> <span style="margin-left: 100px;">92.0 99.6</span> <span style="margin-left: 100px;"><math>Q_T = 6477.73</math> <math>Q = 168.43</math></span> |                                                                                                                                                                                                             |                                                                                                                             |                                                                             |                                                                                                                                                     |                                                                                                                                          |                                                                                                           |

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| Run Number:<br><b>15605</b>                                                                                                                                                 | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>18:10</u><br>Stop time (RC GUI):<br><u>19:13</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>178</u> k<br>SHMS prescale<br><u>246</u> k<br>$e-\pi n$ evts:<br><u>619</u><br>$\Sigma e-\pi n$ evts:<br><u>23607</u> | COIN pretrig: <u>80</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <b>LH2 65 mA</b> <span style="margin-left: 100px;">99.0 97.6</span> <span style="margin-left: 100px;"><math>Q_T = 6656.885</math> <math>Q = 179.155</math></span> |                                                                                                                                                                                                             |                                                                                                                             |                                                                             |                                                                                                                                                     |                                                                                                                                          |                                                                                                           |

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| Run Number:<br><b>15606</b>                                                                                                                               | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm | PS1: <u>11</u><br>PS2: <u>-1</u><br>PS3: <u>1</u><br>PS4: <u>6</u><br>PS5: <u>0</u><br>PS6: <u>-1</u><br>Mode10: cer / fadc | Start time (RC GUI):<br><u>19:13</u><br>Stop time (RC GUI):<br><u>20:15</u> | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br><u>186</u> k<br>SHMS prescale<br><u>259</u> k<br>$e-\pi n$ evts:<br><u>682</u><br>$\Sigma e-\pi n$ evts:<br><u>24289</u> | COIN pretrig: <u>82</u> k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <span style="margin-left: 100px;">98.1 98.1</span> <span style="margin-left: 100px;"><math>Q_T = 6675.615</math> <math>Q = 182.73</math></span> |                                                                                                                                                                                                             |                                                                                                                             |                                                                             |                                                                                                                                                     |                                                                                                                                          |                                                                                                           |



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22 / 7 / 18  
yy mm dd

Initials: MS

## Continuation of Configuration:

$Q^2 = 6 \text{ GeV}^2$   $W = 3.19 \text{ GeV}$   
high  $E$   $x = 0.39$  SHMS Left

This sheet is only to be used to  
continue a running configuration.

|                                                           |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |
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| Run Number:<br>15607                                      | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>20:16<br>Stop time (RC GUI):<br>21:20 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS<br>prescale<br>pretrig: 162 k<br>$e-\pi n$ evts:<br>572 | SHMS<br>prescale<br>pretrig: 224 k<br>$\Sigma e-\pi n$ evts:<br>24861 | COIN<br>pretrig: 77 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br>98.8 98.6 $\Sigma Q = 6838438$ $Q = 162.823$ |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |

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| Run Number:<br>15608                                        | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>21:20<br>Stop time (RC GUI):<br>22:19 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS<br>prescale<br>pretrig: 172 k<br>$e-\pi n$ evts:<br>745 | SHMS<br>prescale<br>pretrig: 238 k<br>$\Sigma e-\pi n$ evts:<br>25606 | COIN<br>pretrig: 76 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br>98.79 98.4 $\Sigma Q = 7011.321$ $Q = 172.883$ |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |

|                                                              |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |
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| Run Number:<br>15609                                         | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>22:20<br>Stop time (RC GUI):<br>23:18 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS<br>prescale<br>pretrig: 161 k<br>$e-\pi n$ evts:<br>560 | SHMS<br>prescale<br>pretrig: 224 k<br>$\Sigma e-\pi n$ evts:<br>26166 | COIN<br>pretrig: 74 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br>99.07 98.32 $\Sigma Q = 7173.907$ $Q = 162.586$ |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |

|                                                              |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |
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| Run Number:<br>15610                                         | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>23:19<br>Stop time (RC GUI):<br>00:18 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS<br>prescale<br>pretrig: 123 k<br>$e-\pi n$ evts:<br>470 | SHMS<br>prescale<br>pretrig: 170 k<br>$\Sigma e-\pi n$ evts:<br>26636 | COIN<br>pretrig: 65 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br>98.49 97.85 $\Sigma Q = 7297.141$ $Q = 123.234$ |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |

|                                                  |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |
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| Run Number:<br>15611                             | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>00:19<br>Stop time (RC GUI):<br>01:20 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS<br>prescale<br>pretrig: 184 k<br>$e-\pi n$ evts:<br>629 | SHMS<br>prescale<br>pretrig: 256 k<br>$\Sigma e-\pi n$ evts:<br>27265 | COIN<br>pretrig: 81 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br>$\Sigma Q = 7482.772$ $Q = 185.631$ |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |

|                                                  |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |
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| Run Number:<br>15612                             | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>01:20<br>Stop time (RC GUI):<br>02:20 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS<br>prescale<br>pretrig: 175 k<br>$e-\pi n$ evts:<br>587 | SHMS<br>prescale<br>pretrig: 244 k<br>$\Sigma e-\pi n$ evts:<br>27852 | COIN<br>pretrig: 79 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br>$\Sigma Q = 7659.180$ $Q = 176.408$ |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |



# $p(e,e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22/7/19  
yy mm dd

Initials: MA

## Continuation of Configuration:

$Q^2 = 6 \text{ GeV}^2$ ;  $W = 3.19 \text{ GeV}$

high  $\epsilon$ ;  $x = 0.39$ , SHMS Left

This sheet is only to be used to continue a running configuration.

|                                                                                                           |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |
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| Run Number:<br><b>15613</b>                                                                               | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>02:20<br>Stop time (RC GUI):<br>03:20 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>189 k<br>pretrig:<br>$e-\pi n$ evts:<br>679 | SHMS prescale<br>263 k<br>pretrig:<br>$\Sigma e-\pi n$ evts:<br>28531 | COIN pretrig:<br>82 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <span style="float: right;"><math>Q = 189.905</math>    <math>\Sigma Q = 7849.085</math></span> |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |

|                                                                                                           |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |
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| Run Number:<br><b>15614</b>                                                                               | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>03:20<br>Stop time (RC GUI):<br>04:20 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>176 k<br>pretrig:<br>$e-\pi n$ evts:<br>644 | SHMS prescale<br>244 k<br>pretrig:<br>$\Sigma e-\pi n$ evts:<br>29175 | COIN pretrig:<br>78 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <span style="float: right;"><math>Q = 176.570</math>    <math>\Sigma Q = 8025.655</math></span> |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |

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| Run Number:<br><b>15615</b>                                                                                                                         | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>04:21<br>Stop time (RC GUI):<br>04:35 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>32 k<br>pretrig:<br>$e-\pi n$ evts:<br>120 | SHMS prescale<br>45 k<br>pretrig:<br>$\Sigma e-\pi n$ evts:<br>29295 | COIN pretrig:<br>16 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: Beam down due to cavity tuning; Short run <span style="float: right;"><math>Q = 32.433</math><br/><math>\Sigma Q = 8058.088</math></span> |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                            |                                                                      |                                                                                                       |

|                                                                                                            |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |
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| Run Number:<br><b>15616</b>                                                                                | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>04:43<br>Stop time (RC GUI):<br>05:43 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>157 k<br>pretrig:<br>$e-\pi n$ evts:<br>553 | SHMS prescale<br>218 k<br>pretrig:<br>$\Sigma e-\pi n$ evts:<br>29848 | COIN pretrig:<br>74 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: <span style="float: right;"><math>Q = 158.000</math><br/><math>\Sigma Q = 8216.088</math></span> |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                             |                                                                       |                                                                                                       |

|                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                            |                                                                       |                                                                                                       |
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| Run Number:<br><b>15617</b>                                                                                                                                                                                                                           | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: -1<br>PS3: -1<br>PS4: 6<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>05:44<br>Stop time (RC GUI):<br>06:44 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>126 k<br>pretrig:<br>$e-\pi n$ evts:<br>48 | SHMS prescale<br>170 k<br>pretrig:<br>$\Sigma e-\pi n$ evts:<br>30266 | COIN pretrig:<br>65 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: Slow ramp up back to 65 only 15 min stable, then ~20 min had slow ramp, back to 1 kind ok <span style="float: right;"><math>Q = 126.060 \text{ mC}</math><br/><math>\Sigma Q = 8511.121</math><br/>corrected sum<br/>Run 15616 added</span> |                                                                                                                                                                                                                                               |                                                                                    |                                                               |                                                                                                                                                     |                                                            |                                                                       |                                                                                                       |

|                                                                                                                                      |                                                                                                                                                                                                                                               |                                                                                   |                                                                  |                                                                                                                                                     |                                                            |                                                                     |                                                                                                       |
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| Run Number:<br><b>15618</b>                                                                                                          | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____ cm<br><input type="checkbox"/> _____ | PS1: 8<br>PS2: -1<br>PS3: -1<br>PS4: 3<br>PS5: 0<br>PS6: -1<br>Mode10: cer / fadc | Start time (RC GUI):<br>06:53:23<br>Stop time (RC GUI):<br>07:55 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale<br>338 k<br>pretrig:<br>$e-\pi n$ evts:<br>23 | SHMS prescale<br>280 k<br>pretrig:<br>$\Sigma e-\pi n$ evts:<br>124 | COIN pretrig:<br>40 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments: Dummy Run <span style="float: right;"><math>Q = 119.1 \text{ mC}</math>    <math>\Sigma Q = 576.7 \text{ mC}</math></span> |                                                                                                                                                                                                                                               |                                                                                   |                                                                  |                                                                                                                                                     |                                                            |                                                                     |                                                                                                       |



# $p(e, e'\pi)n$ Run Sheet

can be found at [lichen.phys.uregina.ca/~huberg/fpi/](http://lichen.phys.uregina.ca/~huberg/fpi/)

Date: 22 / 7 / 19  
yy mm dd

Initials: MMP

## Continuation of Configuration:

$$Q^2 = 6 \text{ GeV}^2 \quad W = 3.19 \text{ GeV}$$

high  $\epsilon$   $x = 0.39$  SHMS left

This sheet is only to be used to continue a running configuration.

|                         |                                                                                                                                                                                                                                              |                                                                                |                                                               |                                                                                                                                                     |                                                   |                                                            |                                                                                                    |
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| Run Number:<br>15619    | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: 8<br>PS2: 1<br>PS3: 1<br>PS4: 3<br>PS5: 1<br>PS6: 1<br>Mode10: cer / fadc | Start time (RC GUI):<br>07:55<br>Stop time (RC GUI):<br>09:06 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: 351 k<br>$e-\pi n$ evts: 31 | SHMS prescale pretrig: 291 k<br>$\Sigma e-\pi n$ evts: 155 | COIN pretrig: 45 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br>40 $\mu$ A | 1.00 1.00                                                                                                                                                                                                                                    | Q = 123.7 mC $\Sigma Q = 700.5$ mC                                             |                                                               |                                                                                                                                                     |                                                   |                                                            |                                                                                                    |

|                         |                                                                                                                                                                                                                                              |                                                                                |                                                               |                                                                                                                                                     |                                                   |                                                            |                                                                                                    |
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| Run Number:<br>15620    | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input checked="" type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: 8<br>PS2: 1<br>PS3: 1<br>PS4: 3<br>PS5: 0<br>PS6: 1<br>Mode10: cer / fadc | Start time (RC GUI):<br>09:07<br>Stop time (RC GUI):<br>10:03 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: 257 k<br>$e-\pi n$ evts: 23 | SHMS prescale pretrig: 213 k<br>$\Sigma e-\pi n$ evts: 178 | COIN pretrig: 36 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br>40 $\mu$ A | 1.00 1.00                                                                                                                                                                                                                                    | Q = 90.4 mC $\Sigma Q = 790.9$ mC                                              |                                                               |                                                                                                                                                     |                                                   |                                                            |                                                                                                    |

|                         |                                                                                                                                                                                                                                              |                                                                                 |                                                               |                                                                                                                                                     |                                                    |                                                              |                                                                                                    |
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| Run Number:<br>15621    | <input checked="" type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: 11<br>PS2: 1<br>PS3: 6<br>PS4: 0<br>PS5: 1<br>PS6: 1<br>Mode10: cer / fadc | Start time (RC GUI):<br>10:05<br>Stop time (RC GUI):<br>11:07 | <input checked="" type="checkbox"/> Settings Verified?<br><input checked="" type="checkbox"/> HV OK?<br><input checked="" type="checkbox"/> 50k OK? | HMS prescale pretrig: 135 k<br>$e-\pi n$ evts: 492 | SHMS prescale pretrig: 185 k<br>$\Sigma e-\pi n$ evts: 30758 | COIN pretrig: 69 k<br><input checked="" type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:<br>65 $\mu$ A | 99.1 97.5                                                                                                                                                                                                                                    | Q = 135.5 mC $\Sigma Q = 8646.6$ mC                                             |                                                               |                                                                                                                                                     |                                                    |                                                              |                                                                                                    |

|             |                                                                                                                                                                                                                                   |                                                                                                        |                                             |                                                                                                                    |                                            |                                                    |                                                                                      |
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| Run Number: | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: _____<br>PS2: _____<br>PS3: _____<br>PS4: _____<br>PS5: _____<br>PS6: _____<br>Mode10: cer / fadc | Start time (RC GUI):<br>Stop time (RC GUI): | <input type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale pretrig: k<br>$e-\pi n$ evts: | SHMS prescale pretrig: k<br>$\Sigma e-\pi n$ evts: | COIN pretrig: k<br><input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:   |                                                                                                                                                                                                                                   |                                                                                                        |                                             |                                                                                                                    |                                            |                                                    |                                                                                      |

|             |                                                                                                                                                                                                                                   |                                                                                                        |                                             |                                                                                                                    |                                            |                                                    |                                                                                      |
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| Run Number: | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: _____<br>PS2: _____<br>PS3: _____<br>PS4: _____<br>PS5: _____<br>PS6: _____<br>Mode10: cer / fadc | Start time (RC GUI):<br>Stop time (RC GUI): | <input type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale pretrig: k<br>$e-\pi n$ evts: | SHMS prescale pretrig: k<br>$\Sigma e-\pi n$ evts: | COIN pretrig: k<br><input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:   |                                                                                                                                                                                                                                   |                                                                                                        |                                             |                                                                                                                    |                                            |                                                    |                                                                                      |

|             |                                                                                                                                                                                                                                   |                                                                                                        |                                             |                                                                                                                    |                                            |                                                    |                                                                                      |
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| Run Number: | <input type="checkbox"/> LH2 10cm<br><input type="checkbox"/> LD2 10cm<br><input type="checkbox"/> Dummy 10cm<br><input type="checkbox"/> C 0.5% r.l.<br><input type="checkbox"/> Optics ____cm<br><input type="checkbox"/> _____ | PS1: _____<br>PS2: _____<br>PS3: _____<br>PS4: _____<br>PS5: _____<br>PS6: _____<br>Mode10: cer / fadc | Start time (RC GUI):<br>Stop time (RC GUI): | <input type="checkbox"/> Settings Verified?<br><input type="checkbox"/> HV OK?<br><input type="checkbox"/> 50k OK? | HMS prescale pretrig: k<br>$e-\pi n$ evts: | SHMS prescale pretrig: k<br>$\Sigma e-\pi n$ evts: | COIN pretrig: k<br><input type="checkbox"/> Data ok<br><input type="checkbox"/> Junk |
| Comments:   |                                                                                                                                                                                                                                   |                                                                                                        |                                             |                                                                                                                    |                                            |                                                    |                                                                                      |