

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

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

Date: 22/06/20
yy mm dd

Initials: P.S.

Use a separate sheet for each configuration.

Configuration Name: _____

$Q^2 = 2.73$, $W = 2.63$
 $x = 0.31$, High E_γ SHMS Left

E_{beam}: 10.5 GeV

I_{beam}: 45 μ A

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>-0.09</u> mm		<u>-0.3</u> mm
Nomin:		Nomin:
3H07C	X	Y
<u>-0.68</u> mm		<u>-0.49</u> mm
Nomin:		Nomin:

HMS

SHMS

Q1	I-SET (from PSU) <u>766.54</u> A B-HALL <u>1.01950</u> T	I-SET (from PSU) <u>967.19</u> A B-HALL <u>-9.741</u> kg	HB
Q2	I-SET (from PSU) <u>617.06</u> A B-HALL <u>-1.20708</u> T	I-SET (from PSU) 1167.19 A B-HALL <u>+6.906</u> kg	Q1
Q3	I-SET (from PSU) <u>295.84</u> A B-HALL <u>0.59369</u> T	I-SET (from PSU) <u>1623.4</u> A B-HALL <u>-15.287</u> kg	Q2
D	I-READ <u>1909.4</u> A B-NMR <u>1.62772</u> T	I-SET (from PSU) <u>1069.2</u> A B-HALL <u>-10.343</u> kg	Q3
	If momentum increased: ☐ HMS cycled? ☒ SHMS cycled?	I-SET (from PSU) <u>1468.2</u> A B-NMR <u>10,686</u> kg	D

Run Number:

15039

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

PS1: 10
PS2: -1
PS3: -1
PS4: 10
PS5: 0
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

07:15

Stop time (RC GUI):

07:19

- ☒ 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

Run Number:

15040

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

PS1: 10
PS2: -1
PS3: -1
PS4: 10
PS5: 0
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

07:20

Stop time (RC GUI):

08:18

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

HMS prescale
pretrig: 238 k

$e-\pi n$ evts:

42580

SHMS prescale
pretrig: 206 k

$\Sigma e-\pi n$ evts:

42580

COIN
pretrig: 645 k

☒ Data ok

☐ Junk

Comments:

Run Number:

15041

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

PS1: 10
PS2: -1
PS3: -1
PS4: 10
PS5: 0
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

08:18

Stop time (RC GUI):

9:27

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

HMS prescale
pretrig: 250 k

$e-\pi n$ evts:

45065

SHMS prescale
pretrig: 216 k

$\Sigma e-\pi n$ evts:

87645

COIN
pretrig: _____ k

☒ Data ok

☐ Junk

Comments:

Run Number:

15042

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

PS1: 10
PS2: -1
PS3: -1
PS4: 10
PS5: 0
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

09:28

Stop time (RC GUI):

10:58

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

HMS prescale
pretrig: 312 k

$e-\pi n$ evts:

56211

SHMS prescale
pretrig: 264 k

$\Sigma e-\pi n$ evts:

143856

COIN
pretrig: 846 k

☒ Data ok

☐ Junk

Comments:

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

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

Date: 22/06/20
yy mm dd

Initials: SJK

Continuation of Configuration:

$$Q^2 = 2.73, W = 2.63, x = 0.31$$

high ϵ_γ STIMS Left (16.330)

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

Run Number: <u>15043</u>	☐ LH2 10cm ☐ LD2 10cm ☒ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: <u>10</u> PS2: <u>-1</u> PS3: <u>-1</u> PS4: <u>10</u> PS5: <u>0</u> PS6: <u>-1</u> Mode10: cer / fadc	Start time (RC GUI): <u>11:07</u> Stop time (RC GUI): <u>11:19</u>	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: <u>14</u> k $e-\pi n$ evts: <u>481</u>	SHMS prescale pretrig: <u>12</u> k $\Sigma e-\pi n$ evts: <u>481</u>	COIN pretrig: <u>24</u> k ☒ Data ok ☐ Junk
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Dummy Run

Run Number: <u>15044</u>	☐ LH2 10cm ☐ LD2 10cm ☒ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: <u>10</u> PS2: <u>-1</u> PS3: <u>-1</u> PS4: <u>10</u> PS5: <u>0</u> PS6: <u>-1</u> Mode10: cer / fadc	Start time (RC GUI): <u>11:27</u> Stop time (RC GUI):	☐ 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
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Dummy:

Run Number:	☐ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: ____ PS2: ____ PS3: ____ PS4: ____ PS5: ____ PS6: ____ Mode10: cer / fadc	Start time (RC GUI): Stop time (RC GUI):	☐ 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
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Run Number:	☐ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: ____ PS2: ____ PS3: ____ PS4: ____ PS5: ____ PS6: ____ Mode10: cer / fadc	Start time (RC GUI): Stop time (RC GUI):	☐ 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
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Run Number:	☐ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: ____ PS2: ____ PS3: ____ PS4: ____ PS5: ____ PS6: ____ Mode10: cer / fadc	Start time (RC GUI): Stop time (RC GUI):	☐ 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
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Run Number:	☐ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: ____ PS2: ____ PS3: ____ PS4: ____ PS5: ____ PS6: ____ Mode10: cer / fadc	Start time (RC GUI): Stop time (RC GUI):	☐ 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
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$p(e, e'\pi)n$ Run Sheet

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

Date: 22.6.20
yy mm dd

Initials: SJDK

Use a separate sheet for each configuration.

Configuration Name:

$Q^2 = 2.73, W = 2.63, x = 0.31$
High E_γ SHMS Centre

$E_{\text{beam}}: 10.5$ GeV

$I_{\text{beam}}: 45$ μA

Purpose:

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

Raster: ☒ On ☐ Off
Size: 2×2

Beam position and angle on target:

3H07A	X	Y
-0.11 mm		-0.30 mm
Nomin: -0.09		Nomin: -0.3
3H07C	X	Y
-0.71 mm		-0.51 mm
Nomin: -0.68		Nomin: -0.44

HMS

SHMS

Q1	I-SET (from PSU) 766.99 A B-HALL 1.01850 T	I-SET (from PSU) 1534.45 A B-HALL -4.709 kg	HB
Q2	I-SET (from PSU) 616.94 A B-HALL -1.20532 T	I-SET (from PSU) 966.91 A B-HALL 6.908 kg	Q1
Q3	I-SET (from PSU) 246.233 A B-HALL 0.59784 T	I-SET (from PSU) 1624.1 A B-HALL -15.286 kg	Q2
D	I-READ 1409.4 A B-NMR 1.62177 T	I-SET (from PSU) 1068.64 A B-HALL -10.342 kg	Q3
	If momentum increased: ☐ HMS cycled? ☐ SHMS cycled?	I-SET (from PSU) 1469.27 A B-NMR 10.692 kg	D

Run Number:

15044

- ☐ LH2 10cm
☐ LD2 10cm
☒ Dummy 10cm
☐ C 0.5% r.l.
☐ Optics ____ cm
☐ _____

PS1: 10
PS2: -1
PS3: -1
PS4: 10
PS5: 0
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

11:27

Stop time (RC GUI):

11:38

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

HMS prescale
pretrig: 14 k

$e-\pi n$ evts: /

SHMS prescale
pretrig: 24 k

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

COIN pretrig: 31 k

☒ Data ok

☐ Junk

Comments:

Dummy

Run Number:

15045

- ☒ LH2 10cm
☐ LD2 10cm
☐ Dummy 10cm
☐ C 0.5% r.l.
☐ Optics ____ cm
☐ _____

PS1: 11
PS2: -1
PS3: -1
PS4: 10
PS5: 0
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

11:49

Stop time (RC GUI):

11:52

- ☒ 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:

Move back To loop 2 10 cm: (LH2 target), FADC run

Run Number:

15046

- ☒ LH2 10cm
☐ LD2 10cm
☐ Dummy 10cm
☐ C 0.5% r.l.
☐ Optics ____ cm
☐ _____

PS1: 11
PS2: -1
PS3: -1
PS4: 0
PS5: 10
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

11:53

Stop time (RC GUI):

12:36

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

HMS prescale
pretrig: 131 k

$e-\pi n$ evts: 3114

SHMS prescale
pretrig: 124 k

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

COIN pretrig: 583 k

☒ Data ok

☐ Junk

Comments:

Back To production run: Ended early (beam issue)

Run Number:

15047

- ☒ LH2 10cm
☐ LD2 10cm
☐ Dummy 10cm
☐ C 0.5% r.l.
☐ Optics ____ cm
☐ _____

PS1: 11
PS2: -1
PS3: -1
PS4: 10
PS5: 0
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

12:56

Stop time (RC GUI):

13:55

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

HMS prescale
pretrig: 204 k

$e-\pi n$ evts: 49405

SHMS prescale
pretrig: 200 k

$\Sigma e-\pi n$ evts: 80519

COIN pretrig: 902 k

☒ Data ok

☐ Junk

Comments:

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

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

Date: 22/6/20
yy mm dd

Initials: SJK

Use a separate sheet for each configuration.

Configuration Name: _____

$Q^2 = 2.73$, $W = 2.63$, $x = 0.31$
high E_γ SHMS right

E_{beam} : 10.5 GeV I_{beam} : 45 μA

HMS

p : +/- 5.8780 $\theta(\text{TV})$: 12.04 (12.040)
From GUI Nearest 0.005

SHMS

p : +/- 4.6050 $\theta(\text{TV})$: 12.325 (12.31)
From GUI 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
	-0.10 mm	-0.24 mm
Nomin:	-0.04	-0.3
3H07C	X	Y
	-0.70 mm	-0.44 mm
Nomin:	-0.68	-0.44

HMS

SHMS

Q1	I-SET (from PSU) 766.99 A B-HALL 1.01820 T	I-SET (from PSU) 1534.45 A B-HALL -4.711 kG	HB
Q2	I-SET (from PSU) 616.9550 A B-HALL -1.20713 T	I-SET (from PSU) 966.9110 A B-HALL 6.908 kG	Q1
Q3	I-SET (from PSU) 246.233 A B-HALL 0.59465 T	I-SET (from PSU) 1624.1 A B-HALL -15.286 kG	Q2
D	I-READ 1409.5 A B-NMR 1.621800 T	I-SET (from PSU) 1068.64 A B-HALL -10.342 kG	Q3
	If momentum increased: ☐ HMS cycled? ☒ SHMS cycled?	I-SET (from PSU) 1469.27 A B-NMR 10.686 kG	D

Run Number:

15048

- ☒ LH2 10cm
☐ LD2 10cm
☐ Dummy 10cm
☐ C 0.5% r.l.
☐ Optics ____ cm
☐ _____

PS1: 13
PS2: 13
PS3: 10
PS4: 10
PS5: 0
PS6: 1
Mode10: cer / fadc

Start time (RC GUI):

14:04

Stop time (RC GUI):

14:06

- ☐ 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:

15044

- ☒ LH2 10cm
☐ LD2 10cm
☐ Dummy 10cm
☐ C 0.5% r.l.
☐ Optics ____ cm
☐ _____

PS1: 13
PS2: 13
PS3: 10
PS4: 10
PS5: 0
PS6: 1
Mode10: cer / fadc

Start time (RC GUI):

14:10

Stop time (RC GUI):

14:39

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

HMS prescale
pretrig: 98 k

$e-\pi n$ evts:

22959

SHMS prescale
pretrig: 110 k

$\Sigma e-\pi n$ evts:

COIN pretrig: 747 k

☒ Data ok

☐ Junk

Comments:

Run Number:

15050

- ☒ LH2 10cm
☐ LD2 10cm
☐ Dummy 10cm
☐ C 0.5% r.l.
☐ Optics ____ cm
☐ _____

PS1: 12
PS2: 1
PS3: 1
PS4: 10
PS5: 0
PS6: 1
Mode10: cer / fadc

Start time (RC GUI):

14:40

Stop time (RC GUI):

15:20

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

HMS prescale
pretrig: 136 k

$e-\pi n$ evts:

31987

SHMS prescale
pretrig: 153 k

$\Sigma e-\pi n$ evts:

54946

COIN pretrig: 1044 k

☒ Data ok

☐ Junk

Comments:

Run Number:

15051

- ☒ LH2 10cm
☐ LD2 10cm
☐ Dummy 10cm
☐ C 0.5% r.l.
☐ Optics ____ cm
☐ _____

PS1: 12
PS2: 1
PS3: 1
PS4: 10
PS5: 0
PS6: 1
Mode10: cer / fadc

Start time (RC GUI):

15:22

Stop time (RC GUI):

16:20

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

HMS prescale
pretrig: 1148 k

$e-\pi n$ evts:

34366

SHMS prescale
pretrig: 165 k

$\Sigma e-\pi n$ evts:

89312

COIN pretrig: 1138 k

☒ Data ok

☐ Junk

Comments:

p(e,e' π)n Run Sheet

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

Date: 22/6/20
yy mm dd

Initials: JR

Continuation of Configuration:

Q^{22.73}, W=2.63 X=0.31

high E_g SHMS right

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

Run Number: <u>15052</u>	☐ LH2 10cm ☐ LD2 10cm ☒ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: <u>12</u> PS2: <u>1</u> PS3: <u>1</u> PS4: <u>10</u> PS5: <u>0</u> PS6: <u>1</u> Mode10: cer / fadc	Start time (RC GUI): <u>16:22</u> Stop time (RC GUI): <u>16:45:37</u>	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale <u>22</u> k pretrig: e- π n evts: <u>1102</u>	SHMS prescale <u>20</u> k pretrig: Σ e- π n evts:	COIN pretrig: <u>66</u> k ☒ Data ok ☐ Junk
Comments:							

Run Number:	☐ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: _____ PS2: _____ PS3: _____ PS4: _____ PS5: _____ PS6: _____ Mode10: cer / fadc	Start time (RC GUI): Stop time (RC GUI):	☐ Settings Verified? ☐ HV OK? ☐ 50k OK?	HMS prescale _____ k pretrig: e- π n evts:	SHMS prescale _____ k pretrig: Σ e- π n evts:	COIN pretrig: _____ k ☐ Data ok ☐ Junk
Comments:							

Run Number:	☐ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: _____ PS2: _____ PS3: _____ PS4: _____ PS5: _____ PS6: _____ Mode10: cer / fadc	Start time (RC GUI): Stop time (RC GUI):	☐ Settings Verified? ☐ HV OK? ☐ 50k OK?	HMS prescale _____ k pretrig: e- π n evts:	SHMS prescale _____ k pretrig: Σ e- π n evts:	COIN pretrig: _____ k ☐ Data ok ☐ Junk
Comments:							

Run Number:	☐ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: _____ PS2: _____ PS3: _____ PS4: _____ PS5: _____ PS6: _____ Mode10: cer / fadc	Start time (RC GUI): Stop time (RC GUI):	☐ Settings Verified? ☐ HV OK? ☐ 50k OK?	HMS prescale _____ k pretrig: e- π n evts:	SHMS prescale _____ k pretrig: Σ e- π n evts:	COIN pretrig: _____ k ☐ Data ok ☐ Junk
Comments:							

Run Number:	☐ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: _____ PS2: _____ PS3: _____ PS4: _____ PS5: _____ PS6: _____ Mode10: cer / fadc	Start time (RC GUI): Stop time (RC GUI):	☐ Settings Verified? ☐ HV OK? ☐ 50k OK?	HMS prescale _____ k pretrig: e- π n evts:	SHMS prescale _____ k pretrig: Σ e- π n evts:	COIN pretrig: _____ k ☐ Data ok ☐ Junk
Comments:							

Run Number:	☐ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: _____ PS2: _____ PS3: _____ PS4: _____ PS5: _____ PS6: _____ Mode10: cer / fadc	Start time (RC GUI): Stop time (RC GUI):	☐ Settings Verified? ☐ HV OK? ☐ 50k OK?	HMS prescale _____ k pretrig: e- π n evts:	SHMS prescale _____ k pretrig: Σ e- π n evts:	COIN pretrig: _____ k ☐ Data ok ☐ Junk
Comments:							