

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

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

Date: 22/07/30
yy mm dd

Initials: GH

Use a separate sheet for each configuration.

Configuration Name:

$Q^2=2.45$, $W=3.20$

$X=0.21$

High E Shms kofx

E_{beam} : 10.549 GeV

I_{beam} : ~40 μA

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
	-0.101 mm	-0.306 mm
Nomin:	-0.09	-0.3
3H07C	X	Y
	-0.668 mm	-0.508 mm
Nomin:	-0.68	-0.49

HMS

SHMS

Q1	I-SET (from PSU) 554.4950 B-HALL 0.73840 T	A	I-SET (from PSU) 2116.0700 B-HALL -13.398 kg	A	HB
Q2	I-SET (from PSU) 440.970 B-HALL -0.85260 T	A	I-SET (from PSU) 1317.9000 B-HALL 9.387 kg	A	Q1
Q3	I-SET (from PSU) 214.4170 B-HALL 0.42755 T	A	I-SET (from PSU) 2209.5500 B-HALL -20.834 kg	A	Q2
D	I-READ 1307.10 B-NMR 1.1652200 T	A	I-SET (from PSU) 1453.8600 B-HALL -14.048 kg	A	Q3
	If momentum increased: ☒ HMS cycled? ☐ SHMS cycled?		I-SET (from PSU) 1998.9100 B-NMR 14.462 kg		D

Run Number:

15809

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

PS1: 13
PS2: -1
PS3: -1
PS4: 10
PS5: 9
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

19:35

Stop time (RC GUI):

19:38

- ☒ 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:

5 adc mode 10 run ~35 uA Data taken ~9000 Not great Beam quality

Run Number:

15810

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

PS1: 12
PS2: -1
PS3: -1
PS4: 10
PS5: 9
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

19:35

Stop time (RC GUI):

20:37

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

HMS prescale
pretrig: 100 k
 $e-\pi n$ evts: 10919

SHMS prescale
pretrig: 69 k
 $\Sigma e-\pi n$ evts: 10919

COIN pretrig: 385 k
☒ Data ok
☐ Junk

Comments:

50k Replay Shms h8 cent Beam is real + mppp Q = 72.056
Pmt 4 (Gadolinium - Pmt) was significantly high E ~ 30 uA $\Sigma Q = 72.056$

Run Number:

15811

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

PS1: 12
PS2: -1
PS3: -1
PS4: 10
PS5: 9
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

21:30

Stop time (RC GUI):

22:06

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

HMS prescale
pretrig: 27 k
 $e-\pi n$ evts: 2921

SHMS prescale
pretrig: 18 k
 $\Sigma e-\pi n$ evts: 13840

COIN pretrig: 96 k
☒ Data ok
☐ Junk

Comments:

Beam is real Bad lots of mppp and ~20 uA Q = 18.854
 $\Sigma Q = 90.910$

Run Number:

15812

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

PS1: 12
PS2: -1
PS3: -1
PS4: 10
PS5: 9
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

22:22

Stop time (RC GUI):

23:02

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

HMS prescale
pretrig: 85 k
 $e-\pi n$ evts: 9216

SHMS prescale
pretrig: 60 k
 $\Sigma e-\pi n$ evts: 23056

COIN pretrig: 390 k
☐ Data ok
☐ Junk

Comments:

50 uA ended early to write Q = 61.133
- 10 - 100 - 100

p(e,e' π)n Run Sheet

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

Date: 22/07/30
yy mm dd

Initials: RJG

Continuation of Configuration:

$Q^2 = 2.75$ $W = 3.20$ $X = 0.21$

high E SHMS left

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

Run Number: 15813	☒ 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): 23:03 Stop time (RC GUI): 23:40	☒ Settings Verified? ☒ HV OK? ☒ 100k OK? ☐ 50k OK?	HMS prescale pretrig: 59 k $e-\pi n$ evts: 6343	SHMS prescale pretrig: 41 k $\Sigma e-\pi n$ evts: 29399	COIN pretrig: 262 k ☒ Data ok ☐ Junk
-----------------------------	---	---	---	--	--	---	--

50k had problem
shms not set but look looks like

$Q = 42.242$
 $\Sigma Q = 194.285$

Run Number: 15814	☒ 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): 23:59 Stop time (RC GUI): 00:53	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: 111 k $e-\pi n$ evts: 11915	SHMS prescale pretrig: 76 k $\Sigma e-\pi n$ evts: 41314	☒ Data ok ☐ Junk
-----------------------------	---	---	---	---	--	---	--

$\Sigma Q = 273.833$ mC

$Q = 79.548$ mC

Run Number: 15815	☐ 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): 01:04 Stop time (RC GUI): 01:34	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: 22 k $e-\pi n$ evts: 504	SHMS prescale pretrig: 11 k $\Sigma e-\pi n$ evts: 504	☐ Data ok ☐ Junk
-----------------------------	---	---	---	---	---	---	---

$Q = 44.478$ mC
 $\Sigma Q = 44.478$ mC

Run Number:	☒ 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): 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:	☐ Data ok ☐ Junk
-------------	---	---	---	--	---	---	---

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:	☐ Data ok ☐ Junk
-------------	--	--	---	--	---	---	---

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:	☐ Data ok ☐ Junk
-------------	--	--	---	--	---	---	---

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

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

Date: 22 / 07 / 31
yy mm dd

Initials: KAA

Use a separate sheet for each configuration.

Configuration Name: _____

$Q^2 = 2.45$, $W = 3.20$

$x = 0.21$, high ϵ . SHMS Center

E_{beam}: 10.544 GeV

I_{beam}: ~40 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>-0.087</u> mm		<u>-0.300</u> mm
Nomin:		Nomin:
3H07C	X	Y
<u>-0.709</u> mm		<u>-0.4923</u> mm
Nomin:		Nomin:

HMS

SHMS

Q1	I-SET (from PSU) <u>554.54</u> A B-HALL	I-SET (from PSU) <u>2109.55</u> A B-HALL	HB
	<u>0.73800</u> T	<u>-13.399</u> kG	
Q2	I-SET (from PSU) <u>440.88</u> A B-HALL	I-SET (from PSU) <u>1217.64</u> A B-HALL	Q1
	<u>8.8530</u> T	<u>9.388</u> kG	
Q3	I-SET (from PSU) <u>214.49</u> A B-HALL	I-SET (from PSU) <u>2208.96</u> A B-HALL	Q2
	<u>0.43211</u> T	<u>-20.834</u> kG	
D	I-READ <u>1307.13</u> A B-NMR	I-SET (from PSU) <u>1488.44</u> A B-HALL	Q3
	<u>1.16523</u> T	<u>-14.055</u> kG	
	If momentum increased: ☐ HMS cycled? ☐ SHMS cycled?		D
		<u>1998.44</u> A B-NMR	
		<u>14.462</u> kG	

Run Number:

15816

- ☒ 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):

01:57

Stop time (RC GUI):

02:57

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

HMS prescale
pretrig: 170 k

$e-\pi n$ evts:

4999

29869

SHMS prescale
pretrig: 330 k

$\Sigma e-\pi n$ evts:

29869

COIN
pretrig: 156 k

☐ Data ok

☐ Junk

Comments:

~1.8M events

$Q = 121.927$ mC

Run Number:

15817

- ☒ 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):

02:57

Stop time (RC GUI):

03:24

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

HMS prescale
pretrig: k

$e-\pi n$ evts:

11651

SHMS prescale
pretrig: k

$\Sigma e-\pi n$ evts:

41520

COIN
pretrig: k

☐ Data ok

☐ Junk

Comments:

$\Sigma Q = 169.311$ mC

$Q = 47.384$ mC

Run Number:

15818

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

PS1: 13
PS2: -1
PS3: -1
PS4: 9
PS5: 0
PS6: -1
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

Comments:

short junk run to check rates of events on scaler screen

Run Number:

15819

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

PS1: 13
PS2: -1
PS3: -1
PS4: 9
PS5: 0
PS6: -1
Mode10: cer / fadc

Start time (RC GUI):

03:30

Stop time (RC GUI):

03:49

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

HMS prescale
pretrig: 57 k

$e-\pi n$ evts:

4999

SHMS prescale
pretrig: 27 k

$\Sigma e-\pi n$ evts:

46519

COIN
pretrig: 260 k

☒ Data ok

☐ Junk

Comments:

$\Sigma Q = 189.594$ mC

$Q = 20.283$ mC

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

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

Date: 22 / 10 / 31
yy mm dd

Initials: KAA

Continuation of Configuration:

$Q^2 = 2.45$, $W = 3.20$
 $x = 0.21$, high $\in$ STM Center

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

Run Number: 15820	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: 13 PS2: -1 PS3: -1 PS4: -1 PS5: 0 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 03:50 Stop time (RC GUI): 04:22	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: 143 k $e-\pi n$ evts: 12595	SHMS prescale pretrig: 69 k $\Sigma e-\pi n$ evts: 59114	COIN pretrig: 646 k ☒ Data ok ☐ Junk
Comments: events 855963 $\Sigma Q = 240.495$ mC, $Q = 50.901$ mC							

Run Number: 15821	☐ LH2 10cm ☐ LD2 10cm ☒ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: 13 PS2: -1 PS3: -1 PS4: 9 PS5: 0 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 05:15 Stop time (RC GUI): 06:21	☒ Settings Verified? ☒ HV OK? ☐ 50k OK?	HMS prescale pretrig: 64 k $e-\pi n$ evts: 1166	SHMS prescale pretrig: 21 k $\Sigma e-\pi n$ evts:	COIN pretrig: 125 k ☐ Data ok ☐ Junk
Comments: Dummy tag. $Q = 64.907$ mC							

Run Number: 15822	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: 13 PS2: -1 PS3: -1 PS4: 9 PS5: 0 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 06:43 Stop time (RC GUI): ~07:03	☒ 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: start FADC scan on LH2 based on run 15820 we get 245 π /mC sum for 15000 π per current. $I = 55 \mu A$							

Run Number: 15823	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: 13 PS2: -1 PS3: -1 PS4: 9 PS5: 0 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 07:08 Stop time (RC GUI): ~07:12	☒ 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: $I = 65 \mu A$, the MCC can't get to $I = 65 \mu A$, probably not useable. Junk.							

Run Number: 15824	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: 13 PS2: -1 PS3: -1 PS4: 9 PS5: 0 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 07:15 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
Comments: $I = 50 \mu A$ Junk fadcmode10							

Run Number: 15826	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: 13 PS2: -1 PS3: -1 PS4: 9 PS5: 0 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 07:21 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
Comments: $I = 50 \mu A$ Junk fadcmode10							

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

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

Date: 22/10/31
yy mm dd

Initials: KAA

Continuation of Configuration:

$Q^2 = 2.45$, $W = 3.20$

$X = 0.21$, high E SMS center

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

Run Number: <u>1515827</u> <u>15287</u>	☐ 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
---	--	--	---	--	--	--	---

Comments:

Wrong setting for fadc mode 10 junk

Run Number: <u>15828</u> <u>15827</u>	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: <u>13</u> PS2: <u>-1</u> PS3: <u>-1</u> PS4: <u>9</u> PS5: <u>0</u> PS6: <u>1</u> Mode10: cer / fadc	Start time (RC GUI): <u>07:41</u> Stop time (RC GUI): <u>08:10</u>	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: <u>15</u> k $e-\pi n$ evts: <u>9809</u>	SHMS prescale pretrig: <u>56</u> k $\Sigma e-\pi n$ evts: _____	COIN pretrig: <u>590</u> k ☒ Data ok ☐ Junk
---	---	---	---	---	--	--	--

Comments:

FADC at $50\mu A$ using cer mode 10 ~ 11 mins @ $50\mu A$ $Q = 40.836$ mC
Run 15827

Run Number: <u>15829</u>	☐ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____ cm ☐ _____	PS1: <u>13</u> PS2: <u>-1</u> PS3: <u>-1</u> PS4: <u>9</u> 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
-----------------------------	--	---	---	--	--	--	---

Comments:

changing prescaler values

Run Number: <u>15830</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>9</u> PS5: <u>0</u> PS6: <u>-1</u> Mode10: cer / fadc	Start time (RC GUI): <u>08:23</u> Stop time (RC GUI): <u>08:43</u>	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: <u>35</u> k $e-\pi n$ evts: <u>3040</u>	SHMS prescale pretrig: <u>33</u> k $\Sigma e-\pi n$ evts: _____	COIN pretrig: <u>129</u> k ☒ Data ok ☐ Junk
-----------------------------	---	--	---	---	--	--	--

Comments:

~ 6 mins @ $30\mu A$ $Q = 12.329$ mC
FADC deadtime @ $30\mu A$

Run Number: <u>15831</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>9</u> PS5: <u>0</u> PS6: <u>-1</u> Mode10: cer / fadc	Start time (RC GUI): <u>08:51</u> Stop time (RC GUI): <u>09:27</u>	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: <u>141</u> k $e-\pi n$ evts: <u>12353</u>	SHMS prescale pretrig: <u>133</u> k $\Sigma e-\pi n$ evts: <u>15393</u> @30	COIN pretrig: <u>515</u> k ☒ Data ok ☐ Junk
-----------------------------	---	--	---	---	--	---	--

Comments:

~ 24 mins @ $30\mu A$ $Q = 49.725$ mC
FADC deadtime @ $30\mu A$ $\Sigma Q @ 30\mu A = 62.054$

Run Number: <u>15832</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>9</u> PS5: <u>0</u> PS6: <u>-1</u> Mode10: cer / fadc	Start time (RC GUI): <u>09:31</u> Stop time (RC GUI): <u>09:37</u>	☒ 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 deadtime @ $30\mu A$ prescaler data same as 15831

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

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

Date: 22 / 07 / 31
yy mm dd

Initials: BB

Continuation of Configuration:

$Q^2 = 2.45$

$W = 3.20$

$x = 0.21$, high ϵ SHMS center

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

Run Number: 15833	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: 11 PS2: -1 PS3: -1 PS4: 8 PS5: 8 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 09:38 Stop time (RC GUI): 10:33	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: 377 k $e-\pi n$ evts: 15935	SHMS prescale pretrig: 321 k $\Sigma e-\pi n$ evts:	COIN pretrig: 488 k ☒ Data ok ☐ Junk
----------------------	--	--	---	---	--	--	---

Comments:

$\sim 49.5 @ 20 \mu A$

$Q = 61.299 mC$

FADC deadtime @ 20 μA

Run Number: 15834	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: 11 PS2: -1 PS3: -1 PS4: 8 PS5: 8 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 10:35 Stop time (RC GUI): 12:00	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: 323 k $e-\pi n$ evts: 15113	SHMS prescale pretrig: 294 k $\Sigma e-\pi n$ evts:	COIN pretrig: 37 k ☒ Data ok ☐ Junk
----------------------	--	--	---	---	--	--	--

Comments:

$\sim 75.5 min @ 12 \mu A$

$Q = 56.560 mC$

FADC deadtime @ 12 μA 1/2 wave plate $\sim 11:00$ (Hall B)

Run Number: 15835	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: 13 PS2: -1 PS3: -1 PS4: 10 PS5: 0 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 12:03 Stop time (RC GUI): 12:37	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: 137 k $e-\pi n$ evts: 22310	SHMS prescale pretrig: 138 k $\Sigma e-\pi n$ evts:	COIN pretrig: 1909 k ☒ Data ok ☐ Junk
----------------------	--	---	---	---	--	--	--

Comments:

$\sim 22 mins @ 65 \mu A$

$Q = 97.482$

FADC deadtime @ 65 μA

Run Number: 15836	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: 13 PS2: -1 PS3: -1 PS4: 10 PS5: 0 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 12:40 Stop time (RC GUI): 12:55	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: 59 k $e-\pi n$ evts: 9843	SHMS prescale pretrig: 57 k $\Sigma e-\pi n$ evts:	COIN pretrig: 656 k ☒ Data ok ☐ Junk
----------------------	--	---	---	---	--	---	---

Comments:

$\sim 13 @ 50 \mu A$

$Q = 41.601 mC$

FADC deadtime @ 50 μA different PS than 15828

Run Number: 15837	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: 14 PS2: -1 PS3: -1 PS4: 8 PS5: 8 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 13:13 Stop time (RC GUI): 13:15	☒ 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:

new SHMS angle

Run Number: 15838	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: 14 PS2: -1 PS3: -1 PS4: 8 PS5: 8 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 13:16 Stop time (RC GUI): 13:36	☒ 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:

$\sim 37 \mu A$

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

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

Date: 22/07/31
yy mm dd

Initials: BB

Use a separate sheet for each configuration.

Configuration Name: _____

$Q^2=2.45$, $W=3.20$ $x=0.21$
high e' SHMS Right

E_{beam} : 10.5 GeV

I_{beam} : ~40 μA

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)	A	I-SET (from PSU)	A	HB
	<u>554.5</u>		<u>2109.6</u>		
Q2	B-HALL	T	B-HALL	T	Q1
	<u>0.730</u>		<u>-13.396</u>		
Q3	I-SET (from PSU)	A	I-SET (from PSU)	A	Q2
	<u>440.8</u>		<u>1317.6</u>		
	B-HALL	T	B-HALL	T	
	<u>-0.8538</u>		<u>9.388</u>		
D	I-SET (from PSU)	A	I-SET (from PSU)	A	Q3
	<u>214.49</u>		<u>2208</u>		
	B-HALL	T	B-HALL	T	
	<u>0.4303</u>		<u>-20.834</u>		
D	I-READ	A	I-SET (from PSU)	A	D
	<u>1307.1</u>		<u>1453</u>		
	B-NMR	T	B-HALL	T	
	<u>1.16524</u>		<u>-14.047</u>		
If momentum increased:			I-SET (from PSU)		
☐ HMS cycled?			<u>1998.4</u>	A	
☐ SHMS cycled?			<u>14.45</u>	kG	

Run Number:

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

PS1: 14
PS2: -1
PS3: -1
PS4: 9
PS5: -8
PS6: -1

Start time (RC GUI):

13:13

Stop time (RC GUI):

13:15

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

HMS prescale
pretrig: 13 k

SHMS prescale
pretrig: 8 k

COIN pretrig: 130 k

$e-\pi n$ evts:

2151

$\Sigma e-\pi n$ evts:

☒ Data ok

☐ Junk

Comments:

fadcmode10

$Q=4.508$ mC

Run Number:

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

PS1: 14
PS2: -1
PS3: -1
PS4: 9
PS5: -8
PS6: -1

Start time (RC GUI):

13:16

Stop time (RC GUI):

13:36

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

HMS prescale
pretrig: 113 k

SHMS prescale
pretrig: 73 k

COIN pretrig: 1140 k

$e-\pi n$ evts:

7677

$\Sigma e-\pi n$ evts:

☒ Data ok

☐ Junk

Comments:

@37 μA

$\pi/Q \sim 192.37$

$Q=39.907$ mC

Run Number:

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

PS1: 14
PS2: -1
PS3: -1
PS4: 9
PS5: -8
PS6: -1

Start time (RC GUI):

13:37

Stop time (RC GUI):

14:28

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

HMS prescale
pretrig: 198 k

SHMS prescale
pretrig: 129 k

COIN pretrig: 1990 k

$e-\pi n$ evts:

13585

$\Sigma e-\pi n$ evts:

21262

☒ Data ok

☐ Junk

Comments:

$Q=69.879$ mC
 $\Sigma Q=109.786$ mC

Run Number:

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

PS1: 14
PS2: -1
PS3: -1
PS4: 9
PS5: -8
PS6: -1

Start time (RC GUI):

14:35

Stop time (RC GUI):

15:06

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

HMS prescale
pretrig: 56 k

SHMS prescale
pretrig: 23 k

COIN pretrig: 168 k

$e-\pi n$ evts:

1031

$\Sigma e-\pi n$ evts:

—

☒ Data ok

☐ Junk

Comments:

dummy 10 cm

$Q_{\text{dummy}} = 56.752$ mC

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

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

Date: 22 / 07 / 31
yy mm dd

Initials: BB

Continuation of Configuration:

$Q^2 = 2.45$ $W = 3.20$ $x = 0.21$
high E, SHMS Right

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

Run Number: 15841	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: 14 PS2: -1 PS3: -1 PS4: 9 PS5: 0 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 15:17 Stop time (RC GUI): 15:56	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: 142 k $e-\pi n$ evts: 9888	SHMS prescale pretrig: 91 k $\Sigma e-\pi n$ evts: 31150	COIN pretrig: 1360 k ☒ Data ok ☐ Junk
Comments: $Q = 49.838 \text{ mc}$ $\Sigma Q = 159.624 \text{ mc}$							

Run Number: 15842	☒ LH2 10cm ☐ LD2 10cm ☐ Dummy 10cm ☐ C 0.5% r.l. ☐ Optics ____cm ☐ _____	PS1: 14 PS2: -1 PS3: -1 PS4: 9 PS5: 0 PS6: -1 Mode10: cer / fadc	Start time (RC GUI): 15:57 Stop time (RC GUI): 16:57	☒ Settings Verified? ☒ HV OK? ☒ 50k OK?	HMS prescale pretrig: 301 k $e-\pi n$ evts: 20544	SHMS prescale pretrig: 104 k $\Sigma e-\pi n$ evts: 51694	COIN pretrig: 2999 k ☒ Data ok ☐ Junk
Comments: $37 \mu A$ $Q = 105.878 \text{ mc}$ $\Sigma Q = 265.502 \text{ mc}$							

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
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 pretrig: k $e-\pi n$ evts:	SHMS prescale pretrig: k $\Sigma e-\pi n$ 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 pretrig: k $e-\pi n$ evts:	SHMS prescale pretrig: k $\Sigma e-\pi n$ 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 pretrig: k $e-\pi n$ evts:	SHMS prescale pretrig: k $\Sigma e-\pi n$ evts:	COIN pretrig: k ☐ Data ok ☐ Junk
Comments:							