

E06-014 LEFT HRS Run Sheet

Date: 03/06/2009	Author: NURUZZAMAN
Beam Energy: 5.892 GeV	Using Pol ^3He cell: Y/N, Longitudinal or Transverse ?
Left HRS momentum (GeV/c): 1.20 angle: 45°	polarity: "+" or "-" ? Sieve slit: IN or <u>OUT</u> ?
	BigBite current (A): 710 angle: never moved. Sieve slit: IN or <u>OUT</u> ?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20564	12:01	12:13	^3He	15	27K	3	(72/29) (1/1)	✓
20565	13:39	13:50	^3He				TEST RUN	
20566	13:51	13:44		2			JUNK	
20567	13:55	14:01		2			TEST RUN.	
20569	14:30		^3He	5		3	(41/15) (1/1)	✓
20570	15:36	16:29	^3He	15	195K	3		
20571	20:34	20:37	BeO		15K		SPOT++ CHECK	

Please change to a new run sheet for a new setting or a new type of run on the run plan.
More comments:

E06-014 LEFT HRS Run Sheet

M. MIHOVILOVIC (from 20573)

Date: 3/6/2009	Author: Holmstrom
Beam Energy: 5.872 4.730 GeV	Using Pol ³ He cell: <input checked="" type="radio"/> Y/N, <u>Longitudinal</u> or Transverse ?
Left HRS momentum (GeV/c): 1.42 angle: 45°	BigBite current (A): 710 angle: never moved.
polarity: "+" or "-" ? <input type="radio"/> - Sieve slit: IN or <input checked="" type="radio"/> OUT ?	Sieve slit: IN or <input checked="" type="radio"/> OUT ?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20572	21:01	21:05	³ He	2	9K	2	SPOTT *	
20573	21:09	00:53	³ He	15	800K	2	(34/23) (1/1)	✓
20574	00:54	02:08	³ He	15 μA	262K	2x	34.7/26.9 (1/1)	✓
20575	02:11	05:45	³ He	15 μA	800K	2x	33.0/23.7 (1/1)	✓
20576	05:47	07:10	³ He	15 μA	332K	2x	32.7/24.8 (1/1)	✓
20577	07:22	07:56	³ He	15 μA	129K	3x	33.7/20.0 (1/1)	✓
20578	8:00 am	11:48	³ He	15	800K	3	(31/22) (1/1)	✓
20579	11:51	12:49	³ He	15	200K	2	(35/21) (1/1)	✓ *
20580	12:36	12:58	³ He	15	4083	2	(1/1)	X *
20581	13:11	14:27	³ He	15	250K	2	(35/21) (1/1)	✓ *
20582	14:37	15:56	³ He	15	258K	3	(99/22) (1/1)	✓ *
20583	15:59	16:06	³ He	15	17K	2	stopped because of no beam	

Please change to a new run sheet for a new setting or a new type of run on the run plan.
More comments:

* Beam Permit.

E06-014 LEFT HRS Run Sheet

Date: <u>March 8, 2009</u>	Author: <u>S. Sirca</u>
Beam Energy: <u>4.730</u> GeV	Using Pol ^3He cell: <u>(Y)</u> N, Longitudinal or <u>(T)</u> ransverse?
Left HRS momentum (GeV/c): <u>1.120</u> angle: <u>45°</u>	BigBite current (A): <u>706 A</u> angle: never moved.
polarity: "+" or "-" ? Sieve slit: IN or <u>(O)</u> UT?	Sieve slit: IN or <u>(O)</u> UT?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20605	21:10	21:50	^3He	14	197k	4	70/20 1/1, Beam $\frac{1}{2}$ OUT	
20606	23:17	23:49	$\text{N}_2^{(119)}$	5	220k	3	——"—— (N2 cell @ 119 psig)	
20607	23:52	02:03	^3He	14	657k	4	70/20 1/1	✓
20608	02:05	02:44	^3He	14 μA	145k	27	72 24 (1/1)	✓
20609	8:50	8:55	BeO/optics	2 μA	21K	4%	Rooster check 2x2 mm	
20610	8:57	9:00	"	"	10K	"	" 4x4 mm	
20611	9:02	9:14	"	"	30K	"	" 6x6 mm	
20612	9:22	9:47	^3He	14 μA	127K	3%	Production ^{69/23} (^4He 1/1) rooster,	✓
20613							10202 vs Friday cup	

Please change to a new run sheet for a new setting or a new type of run on the run plan.
More comments:

rates w/ $I = 2 \mu\text{A}$: $T_1 = 2.7 \text{ kHz}$, $T_2 = 110 \text{ Hz}$, $T_6 \approx 1 \text{ kHz}$
(^3He) cell

E06-014 LEFT HRS Run Sheet

Date:	Author:
Beam Energy: GeV	Using Pol ^3He cell: Y/N, Longitudinal or Transverse ?
Left HRS momentum (GeV/c): angle:	polarity: "+" or "-" ? Sieve slit: IN or OUT ? BigBite current (A): angle: never moved. Sieve slit: IN or OUT ?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20584	18:21		BeO	2 μA		2	(23/19) (1/1) Sp++	✓
	(7.5 x 3.2)	check rate		2 μA		(3He)	19/T3 8/T4	
	(5.2 x 6.5)	check rate		2 μA		3He	19/T3 8/T4	
20585	18:41	19:29	^3He	12 μA	154K	2	(14/8) (1/1)	✓
20586	19:33	19:39	^3He	12 μA	18K	2	Rester (X) check	
20587	20:41	21:33	N_2 cell ^{ref}	5 μA	172K	2	(72/13) (1/1)	✓ change before of moment
			^3He check rates				(3 μA He) (20/13)	
20588	21:19	22:18	^3He	13 μA	244K	3	(41/21) (1/1)	replay by expert
20589	22:21	23:56	^3He	14 μA	401K	2	(46/23) (1/1)	✓
20590	23:57	0:20	^3He	14 μA	69K	1	(44/23) (1/1)	✓
20591	0:21	1:20	^3He	14 μA	252K	2	Beam off	✓
20592	3:03	4:16	^3He	14 μA	283K	1	Summer Time (actually 2:03)	✓

Please change to a new run sheet for a new setting or a new type of run on the run plan.
More comments:

E06-014 LEFT HRS Run Sheet

Date: 3/8/2009	Author: Huan Yao
Beam Energy: GeV	Using Pol ^3He cell: <input checked="" type="checkbox"/> N, Longitudinal or <u>Transverse</u> ?
Left HRS momentum (GeV/c): 1.42 angle: 45°	polarity: "+" or "-" ? Sieve slit: IN or OUT ?
	BigBite current (A): angle: never moved. Sieve slit: IN or OUT ?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20593	4:27	5:30	^3He	14	261K	2		✓
20594	5:32	7:44	^3He	14	522K	2		✓
20595	9:58		BeO		4377		Junk	
20596	10:07	11:42	^3He	14	398K	3		/
20597	11:52	12:58	^3He	14	269K	2	wired chamber trip	✓
20598	13:05	2:32	^3He	14	376K	2	Dipole down	✓
20599	14:59	15:33	^3He	14	154K	1		
20600	15:56	16:30	^3He	14	0	0	The run started by the day shift hadn't started, 0 counts	NO *
20601	16:30	16:36	^3He	14	31k	3	40Hz/20Hz, 1/1	/
20602	17:00	20:00	^3He	14	745k	2	stopped due to cryo level problems	OK
20603	20:17	20:52	^3He	14	149k	3	stopped to change HRS L mom.	OK
20604	20:59	21:03	^3He	14	46k	3	very short, not analyzed	

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More comments:

(*) Killed & restarted Coda @ 16:30

E06-014 LEFT HRS Run Sheet

Date: <u>12 March 2009</u>	Author: <u>Charles Hyde</u>
Beam Energy: <u>4.733</u> GeV	Using Pol <u>He cell</u> Y/N, Longitudinal or <u>Transverse</u> ?
Left HRS momentum (GeV/c): <u>1.11998</u> angle: <u>45.00</u>	polarity: <u>+</u> or "-" ? Sieve slit: IN or <u>OUT</u> ?
	BigBite current (A): <u>710</u> angle: never moved. Sieve slit: IN or <u>OUT</u> ?

Run Number	start time	stop time	target	beam (μ A)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
<u>20620</u>	<u>20:59</u>	<u>21:03</u>	<u>BeO</u>	<u>2.0</u>	<u>69K</u>		<u>check SPOT++ 2um x 2um</u>	
<u>20621</u>	<u>21:19</u>	<u>22:04</u>	<u>³He</u>	<u>15.0</u>	<u>801K</u>	<u>9%</u>		<input checked="" type="checkbox"/>
<u>20622</u>	<u>22:06</u>	<u>22:35</u>	<u>³He</u>	<u>15.0</u>	<u>578K</u>	<u>8%</u>		<input checked="" type="checkbox"/>
<u>20623</u>	<u>22:50</u>	<u>23:01</u>	<u>N₂</u>	<u>5.0</u>	<u>507K</u>	<u>16%</u>	<u>Reference Cell</u>	<input checked="" type="checkbox"/>

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More comments:

E06-014 LEFT HRS Run Sheet

Date: <u>12 March 2009</u>	Author: <u>C. Hyde</u>
Beam Energy: <u>4.733</u> GeV	Using Pol ^3He cell: Y/N, Longitudinal or Transverse ?
Left HRS momentum (GeV/c): <u>0.800</u> angle: <u>45</u>	polarity: <u>(+)</u> or "-" ? Sieve slit: IN or <u>OUT</u> ?
	BigBite current (A): <u>710</u> angle: never moved. Sieve slit: IN or <u>OUT</u> ?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20624	23:10	23:18	N_2	5.1	800K	13%	Reference Cell ? -	
20625	23:18	23:20				37%	ps3 = 1 } Junk	
20626			↓			4%	ps3 = 3	
20627	23:21	23:31	N_2	5.1	804K	12%	ps3 = 2 Reference	✓
20628		23:38	^3He			22%	ps3 = 1 Junk	
20629	23:39	23:59	^3He	14	800K	4%	ps3 = 2	✓
20630	00:00	0:22	^3He		800K	4%	ps3 = 2	✓
20631	0:22	0:43	^3He	14	800K	4%		✓
20632	0:52	1:04	^3He	14	800K	10%	p=0.6 GeV	✓
20633	1:05	1:29	^3He	14	1.6M	10%		✓
20634	1:32	1:34	^3He	14	65K	3%	ps3 = 3	✓
20635							junk	

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More comments:

E06-014 LEFT HRS Run Sheet

Date: 13 March 2009	Author: H. Yao
Beam Energy: 4.7 GeV	Using Pol ^3He cell: Y/N, Longitudinal or <u>Transverse</u> ?
Left HRS momentum (GeV/c): 0.6 angle: 45	polarity: "+" or "-" ? <u>+</u> Sieve slit: IN or <u>OUT</u> ?
	BigBite current (A): 7/0 angle: never moved. Sieve slit: IN or <u>OUT</u> ?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20636	1:35	1:59	^3He	14	1.6M	10%	ps3 = 2	✓
20637	2:08	2:09	N_2	5		23%	tg = N_2 . DT too high	
20638	2:10	2:20	N_2	5	768K	4%	ps3 = 4	✓
20639	3:08	3:09	N_2	5		7%	D = 1.34 GeV ps3 = 4	
20640	3:10	3:11	N_2	5		1%	ps3 = 3	
20641	3:12	3:21	N_2	5	103K	1%	ps3 = 2	✓
20642	3:25	4:34	^3He	14	642K	4%	ps3 = 1	✓
20643	4:41	5:24	^3He	14	800K	10%	P = 1.12 GeV	✓
20644	5:25	5:32	^3He	14	93K	9%	beam off	✓
20645	5:37	5:48	^3He N_2	5	302K	16%		✓
20646	5:58	6:00	^3He	14		2%	ps3 = 1	
20647	6:00	6:26	^3He	14	1M	4%	ps = 2	✓

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More comments:

E06-014 LEFT HRS Run Sheet

Date: <u>Mar 13, 2009</u>	Author:
Beam Energy: <u>4.734</u> GeV	Using Pol ^3He cell: Y/N, Longitudinal or Transverse ?
Left HRS momentum (GeV/c): angle:	polarity: "+" or "-" ? Sieve slit: IN or OUT ? BigBite current (A): angle: never moved. Sieve slit: IN or OUT ?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20648	6:27		^3He	14		100%	ROC3 dead	
20649	6:39	7:00	^3He	14	752k	4%	ROC3 rebooted	✓
20650	7:07	7:37	^3He	14	2M	10%		✓
20651	7:38		^3He	14		10%		✓
20652	9:00 9:10		BeO				Raster check.	
20653	9:15		^3He	2 μA			Rate check w/ normal raster	⊗
20654	9:24		^3He	2 μA			Raster 6x7.8 (MCC)	
20655	9:30		^3He	2 μA			Raster 4x5.2 (MCCUMK)	
20656	9:38		^3He	2 μA			Raster 2x2	
20657								

Please change to a new run sheet for a new setting or a new type of run on the run plan.
 More comments:

⊗ At 08:00 we changed polarity on L-HRS to Neg and put $P\phi = 1.12$, $\theta = 45$ for Kine4E

E06-014 LEFT HRS Run Sheet

Kine 4E

Date: Mar 13, 2009	Author: R. Michael / C. Hyde
Beam Energy: 4.734 GeV	Using Pol ³ He cell: Y/N, Longitudinal or <u>Transverse</u> ?
Left HRS momentum (GeV/c): 1.12 angle: 45	BigBite current (A): 710 angle: never moved.
polarity: "+" or <u>(-)</u> ?	Sieve slit: IN or <u>OUT</u> ?
	Sieve slit: IN or <u>OUT</u> ?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20657	9:45	10:14	³ He	14	147k	3	production, stopped when RF down	
20658	13:06	13:08	Be ⁰ /act.	2	8.6k	10%	Beam Check out	
20659	13:21	14:20	³ He	14	6.57k	2%	Production	OK
20660	14:21		³ He	14		4%	Production	
20661	15:20	15:23	N ₂	5	222k	4%	N ₂ Ref. Cell	
20662	15:58	16:00	³ He	14.2	358K	2%	³ He Transverse Prod.	OK
20663	17:01	17:57	³ He	14.1	350K	4%	³ He Production	OK
20664	18:00	18:26	³ He	14	158K	3%	³ He Prod	OK
20665	18:27	18:31		1.8	16K		Byrdem w rate ^{GEM} study	
20666	18:32	19:25	³ He	15.1	333K	4%	Production	OK
20667	19:25	20:16	³ He	15.15	328K	4%	Production	
20668	20:17	21:16	³ He	15.2	348K	3%		

Please change to a new run sheet for a new setting or a new type of run on the run plan.
More comments:

Total Through run 20660 = ~~0.39C~~ 0.113 C
Need 0.5 C Total

20662 → 0.046C → 0.436 C Total 0.159
0.205

20663 0.046C → 0.482 C Total
20664 0.021C → 0.22

20666 0.045
20667 0.045
20668 0.045

E06-014 LEFT HRS Run Sheet

Kin 4E cont'd

Date: 13 March 2009	Author: C. Hyde
Beam Energy: 4.7346 GeV GeV	Using Pol ³ He cell: Y/N, Longitudinal or <u>Transverse?</u>
Left HRS momentum (GeV/c): 1.12 angle: 45	polarity: "+" or "-"? Sieve slit: IN or <u>OUT?</u>
	BigBite current (A): 710 angle: never moved. Sieve slit: IN or <u>OUT?</u>

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20669	21:17	21:48	³ He	15.05	203K	4	Prod ps3=ps4=1 Goto 4C (AC)	

Please change to a new run sheet for a new setting or a new type of run on the run plan.
More comments:

Total Charge 4E through run 20668 = 0.355C

E06-014 LEFT HRS Run Sheet

0.25

kin 4c

Previous Total: ~~0.3C~~ ^{need} ~~0.4C~~ Total

Date: 13 March 2009	Author: <u>0.38</u>
Beam Energy: 4.734 GeV	Using Pol ³ He cell: Y/N, Longitudinal or Transverse? <u>Y</u>
Left HRS momentum (GeV/c): 0.800 angle: 4.5	polarity: "+" or "-"? <u>+</u> Sieve slit: IN or OUT? <u>OUT</u> BigBite current (A): 710 angle: never moved. Sieve slit: IN or OUT? <u>OUT</u>

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20670	22:02	22:32	N ₂	5	642K	8	Reference	
20671	22:40	23:30	³ He	15.1	743K	6%	Production	OK
20672	23:31	0:35	³ He	10.6	783K	5%		✓
20673	0:38	1:33	³ He	15	761K	6%		✓
4A 20674	1:49	2:19	N ₂	5	1M	13%		✓
20675	2:26	3:21	³ He	15	1.3M	8%		✓
20676	3:22	4:20	³ He	15	1.5M	9%		✓
20677	4:22	5:14	³ He	15	1.3M	9%		✓
20678	5:15	6:10	³ He	15	1.3M	9%		✓
20679	6:11	07:08	³ He	15	1.4M	10%		✓
20680	7:09	8:09	³ He	15		10%		✓

Please change to a new run sheet for a new setting or a new type of run on the run plan.
More comments:

E06-014 LEFT HRS Run Sheet

Kin 411

Date: 14 March 2009	Author: C. Hyde
Beam Energy: 4734.4 GeV	Using Pol ³ He cell: Y/N , Longitudinal or <u>Transverse?</u>
Left HRS momentum (GeV/c): 1.34003 angle: Sieve slit: IN or <u>OUT?</u>	BigBite current (A): 710 angle: never moved. Sieve slit: IN or <u>OUT?</u>

1/2 Wave Plate IN

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK?
20683	15:29		N₂	5			Test	
20684	17:50		BeO				Optics raster/spot PS 00/00/1/1	
20685	18:06	18:29	N ₂	5	85K	2	Reference Cell	
20686	18:32	18:55	N ₂	50	11K	2	Be t	
20687	19:26	21:18	³ He	15	471K	1	Production	OK*
20688	21:20	23:20	³ He	15	492K	2	Production <small>NMR 56.6%</small>	OK
20689	23:22	00:15	³ He	15.1	221K	2	Prod	OK
20690	00:16	00:50	³ He	15	152K	27	38/19 1/1	
20691	00:51	01:30	³ He	15.2 μA	96K	17		
20692	1:40	01:58	³ He	15	76K	17		
20693	02:55	02:57	³ He	2 μA	4K		Spot ++	
20694	03:00	03:55	³ He	15 μA	224K	17	Prod 46/27 1/1	✓

Please change to a new run sheet for a new setting or a new type of run on the run plan.
More comments:

20687 51 TOC double & triple peaks

E06-014 LEFT HRS Run Sheet

Date: 03/15/09	Author: M. MIHOVILOVIC
Beam Energy: 4.734 GeV	Using Pol ³ He cell: Y/N, Longitudinal or <u>Transverse</u> ?
Left HRS momentum (GeV/c): 1.34 angle: 45°	polarity: "+" or "-"? Sieve slit: IN or <u>OUT</u> ? BigBite current (A): 710 angle: never moved. Sieve slit: IN or <u>OUT</u> ?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20695	04:05	04:57	3He	15 μA	223K	2y.	38/26 1/1	✓
20696	04:58	05:33	3He	15 μA	195K	2y.	40/24 1/1	✓
20697	05:34	06:24	3He	15 μA	198K	1y.	39/23 1/1	✓
20698	06:24	07:23	3He	15 μA	227K	1y.	36/23 1/1	✓
20699	07:26	9:35	3He	15 μA	533K	2x.	41/24 1/1	✓
20700	9:35	9:55	3He	15 μA	83K	2	41/24 1/1	✓
20701	10:07	11:00	3He	15 μA	280K	3y.	59/22 1/1	✓
20702	11:05	11:05	N2	5 μA	208K	4y.	83/21 1/1	✓
20703	11:42	13:14	3He	15 μA	487K	4y.	" "	✓
20704	13:18	14:09	3He	15 μA	247K	2y.	" "	✓
20705	14:46	15:33	3He	15	229K	2y.		✓
20706	15:34	17:42	3He	15	658K	2y.		✓

kin 4F →

Please change to a new run sheet for a new setting or a new type of run on the run plan.
More comments:

E06-014 LEFT HRS Run Sheet

Date: 03/16/09	Author:
Beam Energy: 4.737 GeV	Using Pol ^3He cell: Y/N, Longitudinal or Transverse ?
Left HRS momentum (GeV/c): 1.19 angle: 45°	polarity: "+" or (-) ? Sieve slit: IN or (OUT) ? BigBite current (A): 710 angle: never moved.
	Positive pol! Sieve slit: IN or (OUT) ?

Run Number	start time	stop time	target	beam (μA)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20707	17:42	17:56	^3He	15	76k	2%	dipole trip	✓
20708	18:21	20:03	^3He	15	534k	3%		✓
20709	21:01	22:30	^3He	15	398k	3%		✓
20710	22:30		^3He	15		3%		✓
20711	00:00	0:45	^3He	15.2	250K	3%	60/29 1/1	✓ 4#
20712	0:46	1:31	^3He	15	250K	2%		✓
20713	1:32	2:16	^3He	15	250K	2%		✓
20714	2:17		^3He	15			junk DAQ of LRS dead	
20715	2:22	3:07	^3He	15	250K	2%		✓
20716	3:08	3:55	^3He	15	254K	2%		✓
20717							junk DT < 0 for bybite	
20718	4:13	5:28	^3He	15	1.8M	9%	4A	✓

Please change to a new run sheet for a new setting or a new type of run on the run plan.
 More comments:

E06-014 LEFT HRS Run Sheet

Date: 3/16/2009	Author: H. Yao
Beam Energy: 4.7 GeV	Using Pol ³He cell: <input checked="" type="checkbox"/> N, Longitudinal or <u>Transverse</u> ?
Left HRS momentum (GeV/c): 0.6 angle: 45°	polarity: "+" or "-" ? Sieve slit: IN or <u>OUT</u> ?
	BigBite current (A): 7/0 angle: never moved. Sieve slit: IN or <u>OUT</u> ?

Run Number	start time	stop time	target	beam (μ A)	# of events	dead time	comments (T3/T4 rate, PS3/PS4... etc)	replay OK ?
20719 20719	5:27	6:44	³ He	15	1.8M	9%		✓
20720	6:45	7:02	³ He	15	417K	10%		✓

Please change to a new run sheet for a new setting or a new type of run on the run plan.
More comments: