

from file

	PDT	SDT	BOT	tuning CYC	Total scheduled
14030 A	12	6	168	22	196
15190 A	0	0	144	18	162
14030 B	0	6	32	2	40

1

Scribe Name <i>Danielle</i>		others <i>Betty</i>					
Run # <i>2565</i>	Date <i>02/21/2018</i>	Start <i>11:31</i>			Stop <i>12:11</i>		
Type <i>Data</i>	calib	debug	alpha	pulser	source	junk	
DAQ <i>HIRA (14030)</i>	NW/VW (16042)		<i>Merged (15190)</i>		other		
Beam: <i>40Ca</i>	Energy (MeV/u) <i>140</i>	56	39				
Target viewer	blank <i>58Ni(4.9)</i>	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2(10u)		
Trigger singles	<i>coincidence</i>	FA	<i>On/Off</i>	uball mult. <i>3</i>			
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	<i>A+B+C+D</i>	none	G238F-C	330 epA	G. Master	<i>2516</i>	
CsI Livetime <i>52%</i>	EF_OR	<i>9300</i>	EB_OR	<i>5600</i>	CsI_OR	<i>4193</i>	
Any Downscalers? <i>live 6360</i> <i>live 2470</i>							
Check HIRA Voltage/current (once every 4 hrs)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
print scalers; save online spectra; check summary spectra (once)					Yes/no		
check summary spectra (once a hour)					Yes/no		
Comments:		https://groups.nsci.msu.edu/hira/runlog/					

RUN 2566 Start 12:12 Stop 12:45

RUN 2567 Start 12:45 Stop 12:50

run stopped early because the beam intensity ~~was~~ decreased. Intensity brought back to 330 epA

RUN 2568 Start 12:56 Stop 13:32

Scribe Name <i>Danielle</i>		others <i>Danielle, Zibi, Omm</i>				
Run # <i>2569</i>	Date <i>02/21/2018</i>	Start <i>13:55</i>	Stop <i>14:00</i>			
Type Data <i>calib</i>	debug	alpha	pulser	source	junk	
DAQ	HiRA (14030)	NW/VW (16042)	<i>Merged (15190)</i>		other	
Beam: 40Ca	Energy (MeV/u) <i>140</i>	56	39			
Target	viewer	blank	<i>68Ni(4.9)</i>	64Ni(5.3)	124Sn(6.5) 112Sn(6.1) CH2(10u)	
Trigger	singles	<i>coincidence</i>	FA	<i>On/Off</i>	uball mult. <i>3</i>	
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	1 MeV 2 MeV	
Shadow Bar	<i>A+B+C+D</i>	none	G238F-C	G. Master		
Csl Livetime	EF_OR		EB_OR	Csl_OR		
Any Downscalers?						
Check HiRA Voltage/current (once every 4 hrs)				yes/no		
Check coolant level (whenever the vault is open)				yes/no		
print scalers; save online spectra; check summary spectra (once a hour)				Yes/no		
check summary spectra (once a hour)				Yes/no		
Comments:	https://groups.nsl.msu.edu/hira/runlog/					
<i>Changed FA Voltages (see below)</i>						

NEW FA settings

Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
FA01	1000.00 V	1000.0 uA	899.25 V	318.8 uA	0a	00.0000	
FA02	1000.00 V	1000.0 uA	1000.50 V	351.4 uA	0a	00.0001	
FA03	1000.00 V	1000.0 uA	999.25 V	383.6 uA	0a	00.0002	
FA04	1000.00 V	1000.0 uA	1000.00 V	352.8 uA	0a	00.0003	
FA05	1000.00 V	1000.0 uA	999.25 V	353.8 uA	0a	00.0004	
FA06	1000.00 V	1000.0 uA	899.75 V	314.4 uA	0a	00.0005	
FA07	1000.00 V	1000.0 uA	948.50 V	339.2 uA	0a	00.0006	
FA08	1000.00 V	1000.0 uA	999.75 V	356.2 uA	0a	00.0007	
FA09	1000.00 V	1000.0 uA	999.50 V	332.6 uA	0a	00.0008	
FA10	1000.00 V	1000.0 uA	999.75 V	425.0 uA	0a	00.0009	
FA11	1000.00 V	1000.0 uA	999.50 V	350.6 uA	0a	00.0010	
FA12	1000.00 V	1000.0 uA	999.50 V	355.2 uA	0a	00.0011	
FA13	1000.00 V	1000.0 uA	999.25 V	355.0 uA	0a	01.0000	
FA14	1000.00 V	1000.0 uA	999.25 V	374.8 uA	0a	01.0001	
FA15	1000.00 V	1000.0 uA	949.00 V	355.4 uA	0a	01.0002	
FA16	1000.00 V	1000.0 uA	899.75 V	319.4 uA	0a	01.0003	
FA17	1000.00 V	1000.0 uA	799.00 V	281.4 uA	0a	01.0004	
FA18	1000.00 V	1000.0 uA	899.00 V	367.2 uA	0a	01.0005	
FSC11	1000.00 V	1000.0 uA	1499.25 V	927.6 uA	0a	01.0006	

FA03, 10, 18 HV changes to 1050V

- 1 950
- 2 1000
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15 950
- 16 900
- 17 800
- 18 1000

Scribe Name <i>Om</i>		others <i>Danielle, Zbi</i>					
Run # <i>2570</i>	Date <i>02/21</i>	Start <i>14:08</i>		Stop <i>14:39</i>			
Type <i>Data</i>	calib	debug	alpha	pulser	source	junk	
DAQ	<i>HiRA (14030)</i>	<i>NW/VW (16042)</i>		<i>Merged (15190)</i>		other	
Beam: <i>40Ca</i>	Energy (MeV/u) <i>140</i>		56	39			
Target	<i>viewer</i>	blank	<i>58Ni(4.9)</i>	64Ni(5.3)	124Sn(6.5)	112Sn(6.1) CH2(10u)	
Trigger	<i>singles</i>	<i>coincidence</i>		FA	<i>On/Off</i>	<i>uball mult. 3</i>	
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	<i>A+B+C+D</i>	none	G238F-C	280 epA	G. Master	<i>2281</i>	
Csl LT <i>571</i>	EF_OR	6000	EB_OR	2300	Csl_OR	<i>4800</i>	
Any Downscalers? <i>MB → 300</i>							
Check HiRA Voltage/current (once every 4 hrs)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no		
check summary spectra (once a hour)					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					
<i>FA 03, 10, 18 HV changes to 1050V</i>							
<i>Beam rate increased by 50%.</i>							

RUN	<i>2571</i>	Start:	<i>14:39</i>	Stop:	<i>15:16</i>
RUN	<i>2572</i>	Start:	<i>15:16</i>	Stop:	<i>15:47</i>
RUN	<i>2573</i>	Start:	<i>15:47</i>	Stop:	<i>16:19</i>
RUN	<i>2574</i>	Start:	<i>16:19</i>	Stop:	<i>16:50</i>
RUN	<i>2575</i>	Start:	<i>16:51</i>	Stop:	<i>17:29</i>
RUN	<i>2576</i>	Start:	<i>17:29</i>	Stop:	<i>17:59</i>
RUN	<i>2577</i>	Start:	<i>18:00</i>	Stop:	<i>18:31</i>
RUN	<i>2578</i>	Start:	<i>18:31</i>	Stop:	<i>19:02</i>
RUN	<i>2579</i>	Start:	<i>19:02</i>	Stop:	<i>19:33</i>

Run 2581 start: 20:03 stop: 20:34

Run 2582 start: 20:34 stop: 21:05

Run 2583 start: ~~20~~ 21:05 stop: 21:35

Run 2584 start: 21:36 stop: 22:06

Run 2585 start: 22:06 stop: 22:37

Run 2586 start: 22:37 stop: 23:07

Run 2587 start: 23:08 stop: 23:38

Run 2588 start: 23:38 stop: 00:02
02/22/2018

Run 2589 ~~start~~ Junk

No beam 31k - NW RAW

30 - MASTER (PUB & STER)

W/beam 70k - NW RAW

53 - MASTER (including 30 pubs)

Run 2590 Blank target
no elapse-time in log

↓
Run 2591 start 00:48 stop: 01:17

Run 2592 start 01:19 stop: 01:28

~~start~~ ~~stop 02:10~~

HIRA Downscaler was ~~not~~ in the trigger

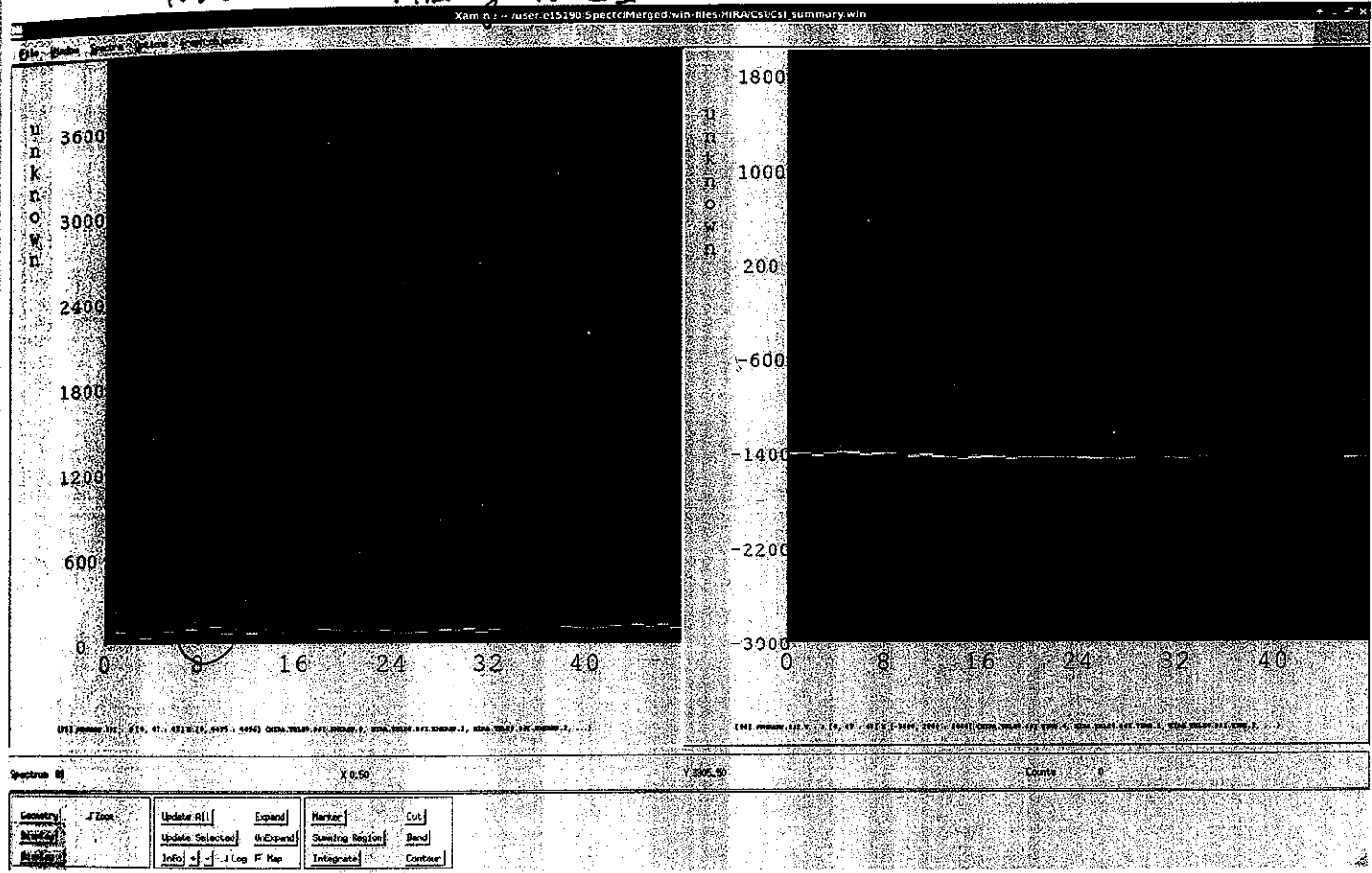
Took HIRA Downscaler Out

Run 2593
Run 2594

start: 01:40
start: 02:11

stop: 02:10
stop: 02:40

1:22 am Missing one CsI



Run 2595	start: 02:4	stop: 03:11
Run 2596	start: 03:11	stop: 03:47
Run 2597	start: 03:47	stop: 04:19
Run 2598	start: 04:20	stop: 04:54
Run 2599	start: 04:54	stop: 05:24
Run 2600	start: 05:24	stop: 05:57
Run 2601	start: 05:57	stop: 06:27
Run 2602	start: 06:27	stop: 06:57
Run 2603	start: 06:57	stop: 07:27
Run 2604	start: 07:28	stop: 07:58
Run 2605	start: 07:58	stop: 08:31
Run 2606	start: 08:31	stop: 09:02
Run 2607	start: 09:02	stop: 09:33
Run 2608	start: 09:33	stop: 10:03
Run 2609	start: 10:03	stop: 10:34
Run 2610	start: 10:34	stop: 11:08
Run 2611	start: 11:08	stop: 11:39

Scribe Name <i>Om</i>		others <i>Kyle</i>					
Run #	<i>2612</i>	Date	<i>02/22</i>	Start	<i>11:48</i>	Stop	<i>11:51</i>
Type	Data	calib	debug	alpha	pulser	source	junk
DAQ	HiRA (14030)	NW/VW (16042)		Merged (15190)		other	
Beam: 40Ca	Energy (MeV/u)		<i>140</i>	56	39		
Target	viewer	<i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2(10u)
Trigger	singles	<i>coincidence</i>		FA	<i>On/Off</i>	uball mult. <i>3</i>	
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	<i>A+B+C+D</i>	none	G238F-C	G. Master			
CsI LT	EF_OR		EB_OR	CsI_OR			
Any Downscalers?							
Check HiRA Voltage/current (once every 4 hrs)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
print scalers; save online spectra; check summary spectra (once a hour)						Yes/no	
check summary spectra (once a hour)						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

RUN *2613* Same as RUN *2612*
 Start *11:51* Stop *11:56*

Scribe Name Om		others Betty, Kyle					
Run # 2614	Date	Start 12:06	Stop 12:37				
Type Data	calib	debug	alpha	pulser	source	junk	
DAQ	HiRA (14030)	NW/VW (16042)	Merged (15190)		other		
Beam: 40Ca	Energy (MeV/u)	140	56	39			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	125Sn(6.1) CH2(10u)	
Trigger	singles	coincidence	FA	On/Off	uball mult. 3		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	450 epA	G. Master	2994	
Csl LT 0.41	EF_OR	13273	EB_OR	7286	Csl_OR	16427	
Any Downscalers? AB Downscalers 300							
Check HiRA Voltage/current (once every 4 hrs)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
print scalers; save online spectra; check summary spectra (on					Yes/no		
check summary spectra (once a hour)					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

2615	same as above	Start 12:37	Stop 13:08
2616		Start 13:08	Stop 13:39
2617		Start 13:39	Stop 14:09
2618		Start 14:10	Stop 14:40
2619		Start 14:40	Stop 15:11
2620		Start 15:11	Stop 15:43
2621		Start 15:43	Stop 16:13
2622		Start 16:14	Stop 16:44
2623		Start 16:44	Stop 17:14
2624		Start 17:15	Stop 17:42
2625		Start 17:42	Stop 18:12

Scribe Name <i>Kyle</i>		others					
Run #	<i>2626</i>	Date	<i>2/22/18</i>	Start	<i>18:38</i>	Stop	<i>19:19</i>
Type	<i>Data</i>	calib	debug	alpha	pulser	source	junk
DAQ	HiRA (14030)	NW/VW (16042)		Merged (15190)		other	
Beam: 40Ca	Energy (MeV/u)		<i>140</i>	56	39		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	<i>112Sn(6.1)</i>	CH2(10u)
Trigger	singles	<i>coincidence</i>		FA	<i>On/Off</i>	uball mult. 3	
Scalers	Gobal M.	Csi OR					
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	<i>1 MeV</i>	2 MeV	
Shadow Bar	<i>A+B+C+D</i>	none	G238F-C	HiRA trigger			
G. Master	EF_OR		EB_OR	Csi_OR			
Check HiRA Voltage/current (once every 4 hrs)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
print scalers; save online spectra; check summary spectra (once a hour)						Yes/no	
check summary spectra (once a hour)						Yes/no	
Comments:	https://groups.nsl.msu.edu/hira/runlog/						
Add Rf trig (DS270,00) to the Global Master, HIRA TOC 57, NWTOC 105							

RUN 2627	Start 19:20	Same as 2626	Stop 19:27
RUN 2628	Start 19:43		Stop 19:59
RUN 2629	Start 20:07		Stop 20:37 Fix DS live
RUN 2630	Start 20:38		stop 21:09
RUN 2631	Start 21:09		Stop 21:12 21:12

Scribe Name <i>Dowell</i>		others <i>Zibi, Om</i>					
Run # <i>2632</i>	Date <i>02/22/2018</i>	Start <i>21:24</i>	Stop <i>21:29</i>				
Type <i>(Data)</i>	calib	debug	alpha	pulser	source	junk	
DAQ	<i>HiRA (14030)</i>	<i>NW/VW (16042)</i>	<i>(Merged (15190))</i>		other		
Beam: <i>40Ca</i>	Energy (MeV/u)		<i>140</i>	56	39		
Target	viewer	blank	<i>58Ni(4.9)</i>	64Ni(5.3)	124Sn(6.5)	112Sn(6.1) CH2(10u)	
Trigger	singles	<i>coincidence</i>	<i>NW+uball</i>	FA	<i>On/Off</i>	<i>uball mult. 3</i>	
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	<i>1 MeV</i>	2 MeV	
Shadow Bar	A+B+C+D	<i>none</i>	G238F-C	<i>440 ePA</i>	G. Master	<i>1951</i>	
Csl LT <i>45%</i>	EF_OR		EB_OR		Csl_OR		
Any Downscalers?							
Check HiRA Voltage/current (once every 4 hrs)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no		
check summary spectra (once a hour)					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

the beam intensity is currently unstable because of beam adjustments. For this run the HiRA discs were not off. run stopped early to turn off HiRA discriminators.

HiRA discriminators turned off.

<i>RUN 2633</i>	<i>Start 21:30</i>	<i>Stop 22:07</i>
<i>RUN 2634</i>	<i>Start 22:07</i>	<i>Stop 22:41</i>
<i>RUN 2635</i>	<i>Start 22:41</i>	<i>Stop 23:11</i>
<i>RUN 2636</i>	<i>Start 23:12</i>	<i>Stop 23:33</i>
<i>RUN 2637</i>	<i>Start 23:33</i>	<i>Stop 00:03</i> <i>02/23/2018</i>
<i>Run 2638</i>	<i>start: 00:03</i>	<i>stop: 00:35</i>
<i>Run 2639</i>	<i>start: 00:35</i>	<i>stop: 01:08</i>
<i>Run 2640</i>	<i>start: 01:08</i>	<i>stop: 01:41</i>
<i>Run 2641</i>	<i>start: 01:41</i>	<i>stop: 02:14</i>
<i>Run 2642</i>	<i>start: 02:15</i>	<i>stop: 02:46</i>
<i>Run 2643</i>	<i>start: 02:46</i>	<i>stop: 03:20</i>
<i>Run 2644</i>	<i>start: 03:20</i>	<i>stop: 03:52</i>
<i>Run 2645</i>	<i>start: 03:53</i>	<i>stop: 04:27</i>

errors for timing on alog website	Run 2646	start: 04:27	stop: 5:00
	Run 2647	start: 05:01	stop: 5:30
	Run 2648	start: 05:31	stop: 06:01
	Run 2649	start: 06:01	stop: 06:31
	Run 2650	start: 06:31	stop: 07:01
	Run 2651	start: 07:01	stop: 07:31
	Run 2652	start: 07:32	stop: 08:03
	Run 2653	start: 08:03	stop: 8:30
	Run 2654	start: 8:31	stop: 8:59
	Run 2655	start: 9:00	stop: 9:30
	Run 2656	start: 9:30	stop: 10:00
Run 2657	start: 10:00	stop: 10:01 → JUNK stopped for (change) blank	

Scribe Name Kyle		others					
Run #	2658	Date		Start		Stop	
Type	Data	calib	debug	alpha	pulser	source	junk
DAQ	HiRA (14030)		NW/VW (16042)		Merged (15190)		other
Beam: 40Ca	Energy (MeV/u)		140	56	39		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2(10u)
Trigger	singles	coincidence	NW FW FA	On/Off	uball mult 3		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	1-5 cm A	G. Master	90	
Csl Livetime	EF_OR	0	EB_OR	0	Csl_OR	132 4727 800	
Any Downscalers? DSS.LIVE does not work No HIRA in data							
Check HiRA Voltage/current (once every 4 hrs)						yes/no	.
Check coolant level (whenever the vault is open)						yes/no	
print scalers; save online spectra; check summary spectra (once a hour)						Yes/no	
check summary spectra (once a hour)						Yes/no	
Comments:		https://groups.nslc.msu.edu/hira/runlog/					

CSI Pulsers Gain 130

Run 2660 Ramp: 0.1, 5V, 31 steps

look at the dead time pulser busy is 700 usec normal cent ~~is~~ 130 usec

the DDS has an electrons dead time ≈ 430 ns

DDS lib has an electrons dead time of 1.5 usec

123k Attenuation w/ Blank → rate 136k m DSS

Cross-section run sheets			40Ca	E/A=56 MeV			2/23/2018
Run #	Att	Target	Scintillator (in/out)	uBall mult 1 or 3	Scalers		
					Master.trig	DSS_Raw	DSS_Live
2660	.1M	b	IN	3			
2662	3K	b	IN	3	14563	19 M	13 M
2663	3K	b	IN	1	30555	18 M	12 M
2664	3K	¹²⁴ Sn	IN	1	43703	18 M	12 M
2665	10K			1	42787	10 M	7.3 M
2666	.1M			1	40855	381k	294k
2667	.1M	¹²⁴ Sn	IN	3	14693	408k	320k
2668	10k			3	15235	9.5M	6.9kM
2669	3k			3	15891	19.8M	13.1M
2670	3k	⁶⁴ Ni	IN	3	16310	21M	14M
2671	10k			3	15443	10M	7.7M
2672	.1M			3	14676	394k	318k
2673	.1M	⁶⁴ Ni	IN	1	44154	400k	302k
2674	10k			1	46000	10.5M	7.5M
2675	3k			1	46534	13.9M	9.3M
2676	3k	¹¹² Sn	IN	1	45392	17.12M	11.15M
2677	10k	¹¹² Sm	IN	1	43959	11.91M	8.16M
2678	.1M	¹¹² Sm	IN	1	41812	406K	307K
2679	.1M	¹¹² Sm	IN	3	44729	298k	224k
2680	10k	¹¹²Sm	IN	3			
2681	10k	¹¹²Sn	IN	3	14892	2.9M	2.2M
2682	3k	¹¹²Sn	IN	3	2595	3.6M	1.5M
2684	3K	¹¹² Sm	IN	3	15543	12.9M	9.9M
2685	10K	¹¹² Sm	IN	3	14963	3.08M	2.4M
2686	3k	⁵⁸ Ni	IN	3	15636	13M	9.8M
2687	10k		IN	3	14858	3M	2.4M
2688	.1M		IN	3	14665	145K	115K
2689	.1M	⁵⁸ Ni	IN/OUT	1	28817	136K	105K
2690	10k		IN	1	29657	2.61M	1.94M
2691	3k		IN	1	31892	13M	8.9M

Cross

Run

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Cross-section run sheets			40Ca	E/A=	56 MeV	2/23/2018	
Run #	Att	Target	Scintillator (in/out)	uBall mult 1 or 3	Scalers		
					Master.trig	DSS_Raw	DSS_Live
2692	3k	^{58}Ni	OUT	1	32534	35	31
2693	10k	^{58}Ni	OUT	1	31874	8	8
2694	.1M	^{58}Ni	OUT	1	30888	5	2
2695	.1M	^{58}Ni	OUT	3	14646	3	3
2696	10k	^{58}Ni	OUT	3	14842	12	10
2697	3k	^{58}Ni	OUT	3	15700	35	26
2698	NO BEAM	^{58}Ni	OUT	3	14664	10	6
2699	3k	^{58}Ni	OUT	1			
2699	3k	^{124}Sn	OUT	1	29830	24	15
2700	10k	^{124}Sn	OUT	1	28272	7	5
2701	.1M	^{124}Sn	OUT	1	27691	10	8
2702	.1M	^{124}Sn	OUT	3	14649	2	2
2703	10k	^{124}Sn	OUT	3	14811	11	8
2704	3k	^{124}Sn	OUT	3	15378	30	21
2705	3k	^{124}Sn	NO BEAM/OUT	3	14644	1	1
2706	3k	b	OUT	3	14694	3	3
2707	3k	b	out	1	26536	3	3
2708	No beam	b	out	1	26387	4	3

Scribe Name <i>Danielle</i>		others <i>Zibi, Betty, Om</i>				
Run # <i>2709</i>	Date <i>02/23/2018</i>	Start			Stop	
Type <i>Data</i>	calib	debug	alpha	pulser	source	junk
DAQ	HiRA (14030)	NW/VW (16042)		<i>Merged (15190)</i>		other
Beam: 40Ca	Energy (MeV/u) <i>140</i>		56	39		
Target	viewer <i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2(10u)
Trigger	singles <i>coincidence + RF</i>	FA		<i>On/Off</i>	uball mult. <i>3</i>	
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV
Shadow Bar	A+B+C+D <i>none</i>	G238F-C		G. Master		
CsI LT	EF_OR	EB_OR		CsI_OR		
Any Downscalers?						
Check HiRA Voltage/current (once every 4 hrs)					yes/no	
Check coolant level (whenever the vault is open)					yes/no	
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no	
check summary spectra (once a hour)					Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/				

Scribe Name <i>Danielle</i>		others <i>Zibi, Om</i>				
Run # <i>2710</i>	Date <i>02/23/2018</i>	Start <i>17:21</i>		Stop <i>17:27</i>		
Type <i>Data</i>	calib	debug	alpha	pulser	source	junk
DAQ	HiRA (14030)	NW/VW (16042)		<i>Merged (15190)</i>		other
Beam: 40Ca	Energy (MeV/u) <i>140</i>		<i>56</i>	39		
Target	viewer <i>blank</i>	58Ni(4.9)	64Ni(5.3)	<i>124Sn(6.5)</i>	112Sn(6.1)	CH2(10u)
Trigger	singles <i>coincidence + RF</i>	FA		<i>On/Off</i>	uball mult. <i>3</i>	
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV
Shadow Bar	A+B+C+D <i>none</i>	G238F-C		<i>~ Accept</i>	G. Master	
CsI LT	EF_OR	EB_OR		CsI_OR		
Any Downscalers?						
Check HiRA Voltage/current (once every 4 hrs)					yes/no	
Check coolant level (whenever the vault is open)					yes/no	
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no	
check summary spectra (once a hour)					Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/				
<i>beam intensity increased during the run (up to ~ 600 epA)</i>						

Looks like 152 gain was set to 130 gain file from 2711.06

RUN 2711	Start 17:27	Stop 18:00
RUN 2712	Start 18:01	Stop 18:10
RUN 2713	Start 18:20	Stop 18:25
RUN 2714	Start 18:30	Stop 19:06
RUN 2715	Start 19:07	Stop 20:10
RUN 2716	Start 19:10	Stop 21:01
RUN 2717	Start 21:01	Stop 21:52
RUN 2718	Start 21:53	Stop 22:53
Run 2719	Start : 22:53	Stop : 23:55
Run 2720	Start : 23:55	Stop 00:56
Run 2721	Start: 00:57	Stop 1:36

ScalerDisplay

File: 124Sn at 140MeV, blank, coinc trigger, RF trigger Elapsed Run Time: 0:00:23:00 Source ID Update Info

Run: 2720 0 2.0

Status: Active 1 2.0

HW: scalersHRA scalersFA Deadtime

ne

Live	Numerator	Denominator	Rate(s)	Total(s)	Ratio (rates tot)
	IR_TRG		3310.50	4475172	
	SS	DSS	406.50 1026.50	576222 1399695	0.40 0.41
	SS2	DSS	811.00 1026.50	1152323 1399695	-0.79 0.82
	i_Back_OR	Si_Back_OR	3585.00 9491.00	4770990 11866876	0.38 0.40
	i_Front_OR	Si_Front_OR	7072.00 18514.50	9282861 24420958	0.38 0.38
	sl_1_OR	Csl_1_OR	3013.00 8214.50	4053642 11231452	0.37 0.36
	sl_2_OR	Csl_2_OR	2231.00 6252.50	3044491 8402532	0.36 0.36
	sl_3_OR	Csl_3_OR	1321.00 3443.00	1787408 4732745	0.38 0.38
	microBall_OR	microBall_OR	12667.50 35355.50	16874916 47525748	0.36 0.36
	sl_OR_of_ORs	Csl_OR_of_ORs	5107.50 15119.00	6925783 20612365	0.34 0.34

File Alarms

Untitled x Untitled x

Main Utility Setup Groups View Admin

Group 00	Channel Name	V0Set	I0Set	VMon	IMon	Pw	Status	Ch#
FA01		900.00 V	1000.0 uA	899.25 V	318.8 uA	On		00.0000
FA02		1000.00 V	1000.0 uA	1000.50 V	353.6 uA	On		00.0001
FA03		1050.00 V	1000.0 uA	1049.25 V	403.2 uA	On		00.0002
FA04		1000.00 V	1000.0 uA	1000.00 V	353.0 uA	On		00.0003
FA05		1000.00 V	1000.0 uA	999.50 V	353.8 uA	On		00.0004
FA06		900.00 V	1000.0 uA	899.75 V	314.4 uA	On		00.0005
FA07		950.00 V	1000.0 uA	948.50 V	339.2 uA	On		00.0006
FA08		1000.00 V	1000.0 uA	1000.00 V	356.2 uA	On		00.0007
FA09		900.00 V	1000.0 uA	899.50 V	332.4 uA	On		00.0008
FA10		1050.00 V	1000.0 uA	1049.25 V	446.2 uA	On		00.0009
FA11		1000.00 V	1000.0 uA	999.50 V	350.6 uA	On		00.0010
FA12		1000.00 V	1000.0 uA	999.50 V	355.2 uA	On		00.0011
FA13		1000.00 V	1000.0 uA	999.25 V	355.0 uA	On		01.0000
FA14		1000.00 V	1000.0 uA	999.00 V	374.8 uA	On		01.0001
FA15		950.00 V	1000.0 uA	949.00 V	355.4 uA	On		01.0002
FA16		900.00 V	1000.0 uA	899.75 V	319.4 uA	On		01.0003
FA17		800.00 V	1000.0 uA	799.00 V	281.6 uA	On		01.0004
FA18		1050.00 V	1000.0 uA	1049.00 V	430.0 uA	On		01.0005
oScit		1500.00 V	1500.0 uA	1499.25 V	929.6 uA	On		01.0006

Main Menu LocEn V0 10 N CAEN SY2527

Scribe Name <i>Sean</i>		others <i>Bert, Betty, Tandy</i>			Stop <i>2:13</i>	
Run # <i>2722</i>	Date <i>2/29/18</i>	Start <i>1:54</i>				
Type	Data	<i>calib</i>	debug	alpha	pulser	source junk
DAQ	HiRA (14030)	NW/VW (16042)		Merged (15190)		other
Beam: <i>40Ca</i>	Energy (MeV/u)	<i>140</i>	56	39		
Target	viewer	<i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1) CH2(10u)
Trigger	singles	<i>coincidence + RF</i>	FA	<i>On</i> /Off	uball mult. <i>3</i>	
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV
Shadow Bar	<i>A+B+C+D</i>	none	G238F-C	G. Master		
Csl LT	EF_OR		EB_OR	Csl_OR		
Any Downscalers?						
Check HiRA Voltage/current (once every 4 hrs)					yes/no	
Check coolant level (whenever the vault is open)					yes/no <i>yes</i>	
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no	
check summary spectra (once a hour)					Yes/no	
Comments:	https://groups.nsl.msu.edu/hira/runlog/					

Run 2722

ScalerDisplay						
140MeV, blank, coinc trigger, RF trigger, ShadowB in				Elapsed Run Time: 0:00:17:36		Source ID: Update In
2722				0		2.0
Inactive				1		2.0
NW scalersHIRA scalersFA Deadtime						
Numerator	Denominator	Rate(s)		Total(s)	Ratio (rates tot)	
R_TRG		96.00	99822			
SS	DSS	0.00	727	754	* 0.96	
SS2	DSS	0.00	1453	754	* 1.93	
i_Back_OR	Si_Back_OR	707.00	1335868	1415544	0.51 0.94	
i_Front_OR	Si_Front_OR	2653.50	5324306	5531955	0.51 0.96	
sl_1_OR	Csl_1_OR	80.50	609989	643047	0.47 0.95	
sl_2_OR	Csl_2_OR	102.00	676440	717122	0.49 0.94	
sl_3_OR	Csl_3_OR	72.00	539416	569400	0.51 0.95	
microBall_OR	microBall_OR	127.00	274634	285613	0.53 0.96	
sl_OR_of_ORs	Csl_OR_of_ORs	253.50	1778075	1900195	0.49 0.94	

Scribe Name <i>Sean</i>		others					
Run # <i>2723</i>	Date	Start <i>2:22</i>			Stop <i>2:3</i>		
Type <i>Data</i>	calib	debug	alpha	pulser	source	junk	
DAQ	HIRA (14030)	NW/VW (16042)		Merged (15190)		other	
Beam: 40Ca	Energy (MeV/u)		<i>140</i>	56	39		
Target	viewer	blank	58Ni(4.9)	<i>64Ni(5.3)</i>	124Sn(6.5)	112Sn(6.1)	CH2(10u)
Trigger	singles	<i>coincidence + RF</i>		FA	<i>On/Off</i>	uball mult. <i>3</i>	
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	<i>A+B+C+D</i>	none	G238F-C	<i>Re 4a</i>	G. Master	<i>3300</i>	
Csl LT	EF_OR	<i>5000</i>	EB_OR	<i>1200</i>	Csl_OR	<i>4900</i>	
Any Downscalers?							
Check HiRA Voltage/current (once every 4 hrs)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no		
check summary spectra (once a hour)					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Checking the Beam spot

Run 2724 Start: 2:31 Stop: 3:39

Run 2725 Start: 3:39 Stop: 4:31

Run 2726 Start: 4:31 Stop: 5:28

Run 2727 Start: 5:29 Stop: 5:38

5:38 Warning appeared Timestamp Diff is 3

```

Terminal
File Edit View Terminal Tabs Help
.....
TIMESTAMP WARNING: timestampDiff is 3!!!
Should be either -500, 500, or very close to 0
Check for timestamp and DAQ problems ASAP!
.....
not to 362 expected 1138
*WARNING* Event not entirely decoded by unpackers
Event will not be histogrammed, proceeding with next event
.....
TIMESTAMP WARNING: timestampDiff is 3!!!
Should be either -500, 500, or very close to 0
Check for timestamp and DAQ problems ASAP!
.....

```

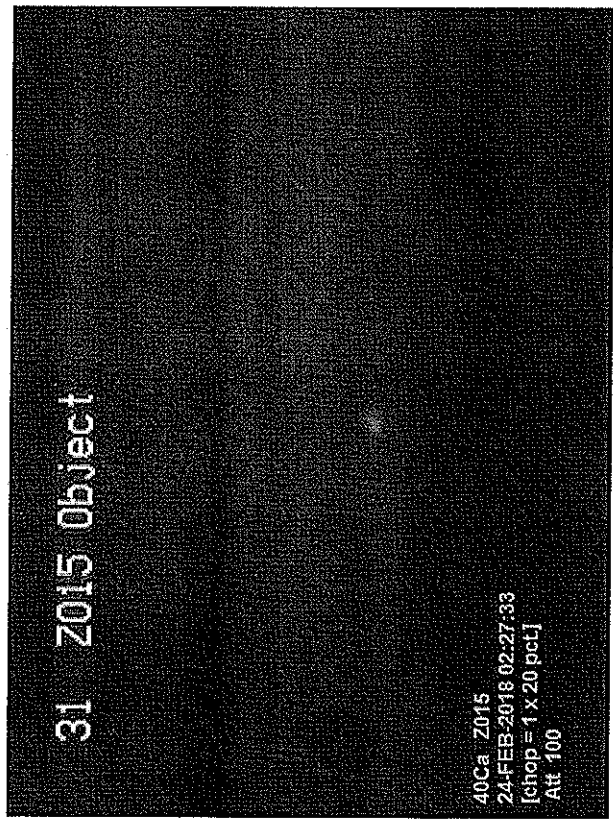
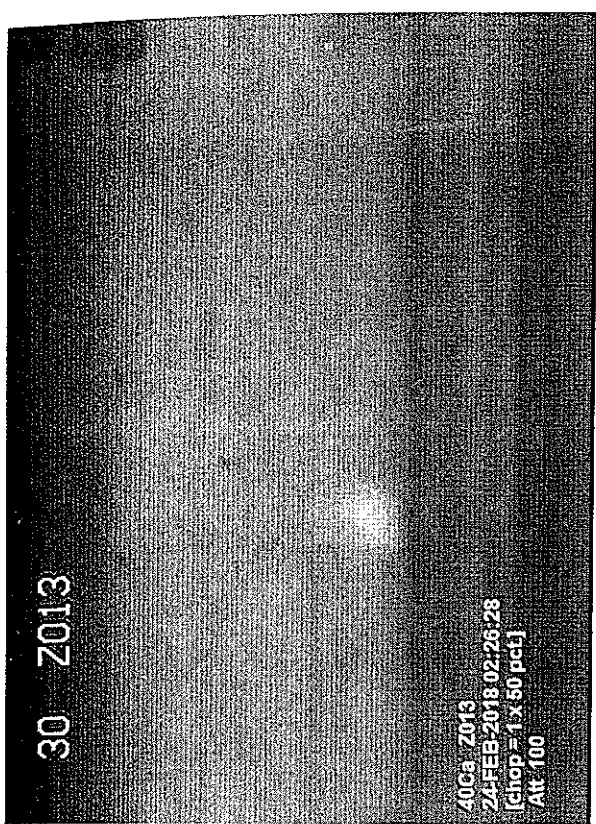
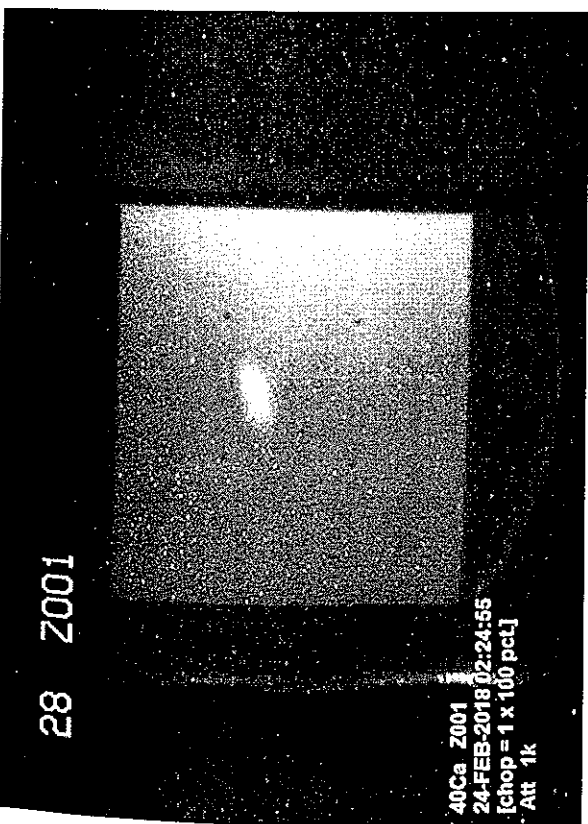
For Run 2727

Run 2728 Start: 5:46 Stop: 6:17

Run 2729 Start: 6:17 Stop: 6:44

Run 2730 Start: 6:44 Stop: 7:12

Run 2731 Start: 7:13 Stop: 7:44



2/24/18

02:36 AM

Run 2732 Start 7:47 Stop 08:16
 RUN 2733 Start 08:15 Stop 08:45
 RUN 2734 Start 08:45 Stop 08:56

Beam stopped for 10 minutes because of an alarm related to the cooling circuit.

RUN 2735 Start 09:07 Stop 09:38
 RUN 2736 Start 09:39 Stop 09:39
 - Stopped to take HiRA- μ Ball trigger
 - Plan: take only neutrons until 2 pm
 - Beam increased to ~ 750 μ A

Scribe Name Juan		others Daniele					
Run # 2737	Date 2/24/18	Start 09:56		Stop 10:34			
Type <u>Data</u>	calib	debug	alpha	pulser	source	junk	
DAQ	HiRA (14030)	NW/VW (16042)	<u>Merged (15190)</u>		other		
Beam: 40Ca	Energy (MeV/u)	<u>140</u>	56	39			
Target	viewer	blank	58Ni(4.9)	<u>64Ni(5.3)</u>	124Sn(6.5)	112Sn(6.1) CH2(10u)	
Trigger	singles	<u>coincidence</u> ^{NW-μBall} (+RF)	FA	<u>On</u> /Off	uball mult. 3		
NW HV file	<u>Co60</u>	15 MeV	25 MeV	Thres. File	<u>MeV</u>	2 MeV	
Shadow Bar	<u>A+B+C+D</u>	none	G238F-C	730	G. Master	2800	
CsI LT 50%	EF_OR	0	EB_OR	0	CsI_OR	17k	
Any Downscalers? μ Ball 300							
Check HiRA Voltage/current (once every 4 hrs)					<u>yes</u> /no		
Check coolant level (whenever the vault is open)					yes/no		
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no		
check summary spectra (once a hour)					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					
No HiRA- μ Ball trigger							

line	addr	ch	power	Vset	Vmeas	Iset	Imeas	status	
<input type="checkbox"/>	0	0	0	ON	80.000V	80.004V	1.000mA	0.0027mA	CV
<input type="checkbox"/>	0	0	1	ON	280.000V	280.003V	1.000mA	0.0005mA	CV
<input type="checkbox"/>	0	0	2	ON	120.000V	120.004V	1.000mA	0.0016mA	CV
<input type="checkbox"/>	0	0	3	ON	190.000V	190.005V	1.000mA	0.0007mA	CV
<input type="checkbox"/>	0	0	4	ON	300.000V	300.006V	1.000mA	0.0044mA	CV
<input type="checkbox"/>	0	0	5	ON	150.000V	150.003V	1.000mA	0.0039mA	CV
<input type="checkbox"/>	0	0	6	OFF	0.000V	0.714V	1.000mA	0.0001mA	
<input type="checkbox"/>	0	0	7	ON	250.000V	250.005V	1.000mA	0.0016mA	CV
<input type="checkbox"/>	0	0	8	ON	350.000V	350.004V	1.000mA	0.0042mA	CV
<input type="checkbox"/>	0	0	9	ON	210.000V	210.004V	1.000mA	0.0017mA	CV
<input type="checkbox"/>	0	0	10	ON	240.000V	240.004V	1.000mA	0.0012mA	CV
<input type="checkbox"/>	0	0	11	ON	165.000V	165.003V	1.000mA	0.0018mA	CV
<input type="checkbox"/>	0	0	12	ON	250.000V	250.005V	1.000mA	0.0017mA	CV
<input type="checkbox"/>	0	0	13	OFF	0.000V	0.537V	1.000mA	0.0001mA	
<input type="checkbox"/>	0	0	14	OFF	0.000V	0.199V	1.000mA	0.0001mA	
<input type="checkbox"/>	0	0	15	OFF	0.000V	0.121V	1.000mA	0.0001mA	
<input type="checkbox"/>	0	0	16	OFF	0.000V	0.660V	1.000mA	0.0001mA	
<input type="checkbox"/>	0	0	17	OFF	0.000V	0.786V	1.000mA	0.0000mA	
<input type="checkbox"/>	0	0	18	OFF	0.000V	0.033V	1.000mA	0.0002mA	

Run 2738

Start: 10:34

Stop: 11:04

Run 2739

Start: 11:04

Stop: 11:36

Run 2740

Start: 11:36

Stop: 12:07

Run 2741

Start: 12:07

Stop: 12:40

Run 2742

Start: 12:40

Stop: 13:12

Run 2743

Start: 13:13

Stop: 13:44

Run 2744

Start: 13:44

Stop: 14:18

Run 2745

BLANK TARGET ~ 4 minutes

next we will start w/ ramping

Run 2746

JUNK

22

NORMALIZATION RUNS

⁴⁰Ca @ 140 MeV/A

T: ~~112 Ge~~

112 Ge (3) ~~112~~

Att

B. Intensity

10 k

350 k

100 k

31 k

1 M

500

Pal
Pal
ser
cl. 01
can
1

Cross-section run sheets			40Ca	E/A=	140 MeV	2/24/2018	
Run #	Att	Target	Scintillator (in/out)	uBall mult 1 or 3	Scalers		
					Master.trig	DSS_Raw	DSS_Live
2747	30k	B	IN	3	23605	16.7M 12.1M	12.1M
2748	30k	B	IN	1	42023	17.6M	12.5M
2749	NO B	-	IN	1	38561	2	2
2750	No B	¹¹² Sn	IN	1	11217	5	5
2751	NO B	¹¹² Sn	IN	1	9543	4	3
2752	30k	¹¹² Sn	IN	1	12637	18.2M	13.0M
2753	0.1M	¹¹² Sn	IN	1	12735	20.2M	14.4M
2754	1M	¹¹² Sn	IN	1	9974	850K	709K
2755	0.1M	¹¹² Sn	IN	1	12396	20.3M	14.4M
2756	30K	¹¹² Sn	IN	1	2390	5.7M	2.6M
2757	10K	¹¹² Sn	IN	1	21189	58.6M	31.6M
2758	0.1M	¹¹² Sn	IN	1	11446	5.6M	4.5M
2759	1M	¹¹² Sn	IN	1	10875	81985	69795
2760	30K	¹¹² Sn	IN	3	6346	65.1M	34.9M
2764	0.1M	¹¹² Sn	IN	3	~2000	5.0M	4.0M
2765	0.1M	¹¹² Sn	IN	3	8336	5.8M	4.7M
2766	1M	¹¹² Sn	IN	3	7896	79809	67741
2767	10K	¹¹² Sn	IN	3	12445	64.5M	34.6M
2768	NOB	-	IN	3	8089	2	2
2769	10K	⁵⁸ Ni	IN	3	12485	60.5M	33.2M
2770	0.1M	⁵⁸ Ni	IN	3	7043	4.9M	3.9M
2772	1M	⁵⁸ Ni	IN	3	7482	64487	64135
2773	1M	⁵⁸ Ni	IN	1	16960	76021	63803
2774	0.1M	⁵⁸ Ni	IN	1	17346	5.9M	4.7M
2775	10K	⁵⁸ Ni	IN	1	28738	65.6M	34.5M
2776	NOB	-	IN	1	17496	3	2
2777	10K	⁶⁴ Ni	IN	1	26094	63.8M	33.6M
2778	0.1M	⁶⁴ Ni	IN	1	16585	5.9M	4.7M
2779	1M	⁶⁴ Ni	IN	1	15809	73019	61325
2780	10K	⁶⁴ Ni	IN	3	12845	64.1M	34.3M
2781	0.1M	⁶⁴ Ni	IN	3	8565	5.3M	4.2M
2782	1M	⁶⁴ Ni	IN	3	8202	70815	61313

w/ Pulsar
No Pulsar
Pulsar
back ON

Beam lowered

RF removed from trigger

DAQ
Hwy
Pulsar: 50 Hz
50 Hz
50 Hz



Cross-section run sheets			40Ca	E/A=	140 MeV	2/24/2018	
Run #	Att	Target	Scintillator (in/out)	uBall mult 1 or 3	Master.trig	DSS_Raw	DSS_Live
2783	No.B	No Beam	In	3	8367	4	3
2784	10k	124Sn	In	3	12160	66.8M	35.4M
2785	0.1M	124Sn	In	3	8145	5.3M	4.30M
2786	1M	124Sn	In	3	7903	62270	7390
2787	10k	124Sn	In	1	26373	67.3M	35.2M
2788	0.1M	124Sn	In	1	16894	5.4M	4.33M
2789	1M	124Sn	In	1	16319	75995	63658
2790	1M	No Beam	In	1	16133	3	3
2791	10k	124Sn ^{BLANK}	In	1	12954	64.1M	34.1M
2792	0.1M	124Sn ^{BLANK}	In	1	11052	5.3M	4.24M
2793	10k	BLANK	In	3	7651	62.8M	34.0M
2793	10k	124Sn	OUT	3			
2794	10k	BLANK	—	3	—	3	3
2795	10k	124Sn	OUT	3	11642	514	432
2796	10k	124Sn	Out	3	7898	40	32
2796	0.1M	124Sn	Out	3	7898	40	32
2797	1M	124Sn	Out	3	7633	8	6
2798	10k	124Sn	Out	1	17153	518	426
2799	0.1M	124Sn	Out	1	10884	46	41
2800	1M	124Sn	Out	1	10363	4	4
2801	No.B	No Beam	Out	1	10462	6	5
2802	10k	64Ni	Out	1	18476	648	554
2803	0.1M	64Ni	Out	1	11136	55	49
2804	1M	64Ni	Out	1	10526	6	5
2805	10k	64Ni	Out	3	12118	685	577
2806	0.1M	64Ni	Out	3	7992	53	45
2807	1M	64Ni	Out	3	7634	6	5
2808	No.B	No Beam	Out	3	7633	7	5
2809	10k	58Ni	Out	3	12282	643	532
2810	0.1M	58Ni	Out	3	7990	48	41
2811	1M	58Ni	Out	3	7644	7	5

← Junk
No scalar
retrieved.

Cross-section run sheets				40Ca	E/A= 56 MeV	2/23/2018	
Run #	Att	Target	Scintillator	uBall mult	Scalers		
			(in/out)	1 or 3	Master.trig	DSS_Raw	DSS_Live
2812	10K	58Ni	Out	1	18363	645	550
2813	0.1M	58Ni	Out	1	10922	51	44
2814	1M	58Ni	Out	1	10416	3	3
2815	No B	No Beam	Out	1	10370	10	8
2816	10K	112Sn	Out	1	10012		
2817	10K	112Sn	OUT	1	16582	467	461
2818	0.1M	112Sn	OUT	1	10448	43	37
2819	1M	112Sn	OUT	1	6680	2	2
2820	10K	112Sn	OUT	3	11619	521	435
2823	.1M	112Sn	OUT	3	7910	55	35
2824	1M	112Sn	OUT	3	7624	7	5

Junk
No Beam

unk
scaler
failed.

Scribe Name <i>Betty</i>		others <i>Zhi, Bill, Kuan, Tommy, J. J. Wu</i>				
Run # <i>2825</i>	Date <i>2/24</i>	Start <i>21:45</i>	Stop <i>22:05</i>			
Type	(Data) calib	debug	alpha	pulser	source	junk
DAQ	HiRA (14030)	NW/VW (16042)	Merged (15190)		other	
Beam: 40Ca	Energy (MeV/u)		140	56	39	
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1) CH2(10u)
Trigger	singles	coincidence	FA	On/Off	uball mult.	
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV
Shadow Bar	A+B+C+D	none	G238F-C	<i>2xcpA</i>	G. Master	
Csl Livetime <i>70%</i>	EF_OR		EB_OR		Csl_OR	
Any Downscalers? <i>uball downscale 300</i>						
Check HiRA Voltage/current (once every 4 hrs)					yes/no	
Check coolant level (whenever the vault is open)					yes/no	
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no	
check summary spectra (once a hour)					Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/				

Run 2826
Run 2827

start: 22:20
start: 22:51

stop: 22:51
stop:

Terminal

File Edit View Terminal Tabs Help

untitled x Untitled x Untitled x Untitled

Main Utility Setup Groups View Admin

Group	Channel Name	VOSet	IOSet	VMon	IMon	Pw	Status	Ch#
01		900.00 V	1000.0 uA	899.25 V	318.8 uA	On		00.0000
02		1000.00 V	1000.0 uA	1000.50 V	353.4 uA	On		00.0001
03		1000.00 V	1000.0 uA	999.50 V	383.4 uA	On		00.0002
04		1000.00 V	1000.0 uA	1000.25 V	353.0 uA	On		00.0003
05		1000.00 V	1000.0 uA	999.50 V	353.8 uA	On		00.0004
06		1000.00 V	1000.0 uA	1000.50 V	349.4 uA	On		00.0005
07		1000.00 V	1000.0 uA	999.25 V	357.0 uA	On		00.0006
08		1000.00 V	1000.0 uA	1000.00 V	356.2 uA	On		00.0007
09		1000.00 V	1000.0 uA	999.75 V	369.4 uA	On		00.0008
10		1000.00 V	1000.0 uA	999.75 V	425.0 uA	On		00.0009
11		1000.00 V	1000.0 uA	999.50 V	350.6 uA	On		00.0010
12		1000.00 V	1000.0 uA	999.50 V	355.2 uA	On		00.0011
13		1000.00 V	1000.0 uA	999.25 V	355.0 uA	On		01.0000
14		1000.00 V	1000.0 uA	999.00 V	374.8 uA	On		01.0001
15		950.00 V	1000.0 uA	949.00 V	355.4 uA	On		01.0002
16		900.00 V	1000.0 uA	899.75 V	319.4 uA	On		01.0003
17		800.00 V	1000.0 uA	799.25 V	281.4 uA	On		01.0004
18		1000.00 V	1000.0 uA	999.00 V	409.0 uA	On		01.0005
19		1500.00 V	1500.0 uA	210.00 V	0.0 uA	Off	Down	01.0006

Channels Display/Edit Screen LocEn VO IO N CAEN SY2527

Scribe Name Sean		others					
Run # 2830	Date	Start 1:24		Stop			
Type Data	calib	debug	alpha	pulser	source	junk	
DAQ	HIRA (14030)	NW/VW (16042)		Merged (15190)		other	
Beam: 40Ca	Energy (MeV/u)		(140)	56	39		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	(112Sn(6.1)) CH2(10u)	
Trigger	singles	coincidence		FA	On/Off	uball mult. 3	
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	100×10^{-8}	G. Master	2826	
CsI Livetime	EF_OR	6000	EB_OR	3000	CsI_OR	3600	
Any Downscalers?							
Check HIRA Voltage/current (once every 4 hrs)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no		
check summary spectra (once a hour)					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Changed to sh file 'e15190. before set to e14030

Runs 2825, 2826, 2827 have wrong CsI gain file. CsI gain file is 130 which is the same gain as Chengyang's calibration. We do not know when the wrong CsI gain file was loaded!

Three CsI gain file

CsI-130 set all gain to 130. This is the gain used by in Dec calibration by Chengyang.

CsI-200 set all gain to 200. Roughly a factor of 2 in gain compared to CsI-130. Very few runs used this gain.

CsI-170 set first tower threshold to 170, tower 2 & 3 remain at 200! Most runs used this setting!

Run 2831 Start: 1:53 Stop: 2:22

Run 2832 Start: 2:22 Stop: 2:51

Run 2833 Start: 2:52 Stop: 3:22

Run 2834 Start: 3:22 Stop: 3:51

Run 2835 Start: 3:51 Stop: 4:18

~~Run 2836 Start: 4:19 Stop: 4:52~~

~~Run 2837 Start: Stop:~~

Run 2836 Start: 5:04 Stop: 5:36

Run 2837 Start: 5:37 Stop: 6:09

Run 2838 Start: 6:09 Stop: 6:39

ScalerDisplay

Title: 40Ca at 140MeV/u; 112Sn, Coin Trig. Elapsed Run Time: 0 00:13:42 Source ID Update Interval

Run: 2838 1 2.0

State: Active 0 2.0

Key: scalersHRA | scalersFA | Deadtime

name	Numerator	Denominator	Rate(s)	Total(s)	Ratio [rates totals]
			2428.50	1954130	
R_TRG			0.00 0.00	0 0	**
SS	DSS		0.00 0.00	0 0	**
SS2	DSS				
l_Back_OR	Si_Back_OR		2600.50 5773	2139958 4753	0.45 0.45
l_Front_OR	Si_Front_OR		5851.50 1177	4829648 9715	0.50 0.50
sl_1_OR	Csl_1_OR		2046.50 3939	1654031 3215	0.52 0.51
sl_2_OR	Csl_2_OR		1514.50 2961	1227540 2378	0.51 0.52
sl_3_OR	Csl_3_OR		862.00 1650.5	719961 13323	0.52 0.54
microBall_OR	microBall_OR		6715.00 1409	5436194 1145	0.48 0.47
sl_OR_of_ORs	Csl_OR_of_ORs		3525.50 7264	2862372 5901	0.49 0.49

ie/Alarms

Run 2839 Start: 6:40 Stop: 7:06

Run 2840 Start: 7:06 Stop: 7:35

Run 2841 Start: 7:36 Stop 08:09

RUN 2842 Start 08:09 Stop 08:45

RUN 2843 Start 08:45 Stop 09:14

in the last part of run 2843, I haven't seen any more data in NW ADC. The problem is fixed in Run 2844.

RUN 2844 Start 09:27 Stop 10:01

RUN 2845 Start 10:01 Stop 10:31

RUN 2846 Start 10:40 Stop 11:00

<input type="checkbox"/>	0	0	0	ON	80.000V	79.993V	1.0000mA	0.0027mA
<input type="checkbox"/>	0	0	1	ON	280.000V	279.990V	1.0000mA	0.0005mA
<input type="checkbox"/>	0	0	2	ON	120.000V	119.992V	1.0000mA	0.0016mA
<input type="checkbox"/>	0	0	3	ON	190.000V	189.993V	1.0000mA	0.0007mA
<input type="checkbox"/>	0	0	4	ON	300.000V	299.991V	1.0000mA	0.0044mA
<input type="checkbox"/>	0	0	5	ON	150.000V	149.995V	1.0000mA	0.0039mA
<input type="checkbox"/>	0	0	6	OFF	0.000V	0.714V	1.0000mA	0.0001mA
<input type="checkbox"/>	0	0	7	ON	250.000V	249.992V	1.0000mA	0.0016mA
<input type="checkbox"/>	0	0	8	ON	350.000V	349.993V	1.0000mA	0.0043mA
<input type="checkbox"/>	0	0	9	ON	210.000V	209.996V	1.0000mA	0.0017mA
<input type="checkbox"/>	0	0	10	ON	240.000V	239.991V	1.0000mA	0.0012mA
<input type="checkbox"/>	0	0	11	ON	165.000V	164.991V	1.0000mA	0.0018mA
<input type="checkbox"/>	0	0	12	ON	250.000V	249.994V	1.0000mA	0.0017mA

Scribe Name <i>Danielle</i>		others <i>Betty</i>					
Run # <i>2847</i>	Date <i>02/25/2018</i>	Start <i>11:10</i>	Stop <i>11:12</i>				
Type	Data <i>(calib)</i>	debug	alpha	pulser	source	junk	
DAQ	HiRA (14030)	NW/VW (16042)	<i>(Merged (15190))</i>		other		
Beam: 40Ca	Energy (MeV/u)	<i>(140)</i>	56	39			
Target	viewer <i>(blank)</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2(10u)	
Trigger	singles <i>(coincidence)</i>	<i>NW-MBall</i> <i>HiRA-MBall</i>	FA	<i>(On/Off)</i>	uball mult. <i>3</i>		
NW HV file	<i>(Co60)</i>	15 MeV	25 MeV	Thres. File <i>(1 MeV)</i>	2 MeV		
Shadow Bar	<i>(A+B+C+D)</i>	none	G238F-C	<i>300 ePA</i>	G. Master	<i>90</i>	
CsI Livetime <i>95%</i>	EF_OR		EB_OR		CsI_OR		
Any Downscalers? <i>uBall 300</i>							
Check HiRA Voltage/current (once every 4 hrs)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no		
check summary spectra (once a hour)					Yes/no		
Comments:		https://groups.nsci.msu.edu/hira/runlog/					

Scribe Name <i>Danielle</i>		others <i>Betty</i>					
Run # <i>2848</i>	Date <i>02/25/2018</i>	Start <i>11:17</i>	Stop <i>11:55</i>				
Type	Data <i>(Data)</i>	calib	debug	alpha	pulser	source	junk
DAQ	HiRA (14030)	NW/VW (16042)	<i>(Merged (15190))</i>		other		
Beam: 40Ca	Energy (MeV/u)	<i>(140)</i>	56	39			
Target	viewer <i>(blank)</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2(10u)	
Trigger	singles <i>(coincidence)</i>	<i>NW-MBall</i> <i>HiRA-MBall</i>	FA	<i>(On/Off)</i>	uball mult. <i>3</i>		
NW HV file	<i>(Co60)</i>	15 MeV	25 MeV	Thres. File <i>(1 MeV)</i>	2 MeV		
Shadow Bar	<i>(A+B+C+D)</i>	none	G238F-C	<i>300 ePA</i>	G. Master	<i>2400</i>	
CsI Livetime <i>52%</i>	EF_OR	<i>5800</i>	EB_OR	<i>2800</i>	CsI_OR	<i>3500</i>	
Any Downscalers? <i>uBall 300</i>							
Check HiRA Voltage/current (once every 4 hrs)					yes/no		
Check coolant level (whenever the vault is open)					yes/no	<i>refilled</i>	
print scalers; save online spectra; check summary spectra (once a hour)					Yes/no		
check summary spectra (once a hour)					Yes/no		
Comments:		https://groups.nsci.msu.edu/hira/runlog/					

RUN 2849 Start 11:55 Stop 12:28

RUN 2850 Start 12:29 Stop 12:53

Like previously in RUN 2843, in RUNS 2849 and 2850, prod7 and prod8 (vix prod) stopped to produce data during the run.

We opened the vault to solve the issue (the issue was probably caused by the front-beam cable not well connected)

RUN 2851 Start 13:10 Stop 13:15

run stopped early for debugging.

RUN 2852 Start 13:41 Stop 13:42 JUNK

RUN 2853 Start 13:42 Stop 14:12

beam intensity increased to 400 epA (MASTER-TRIG \approx 2900, live time \approx 45%)

RUN 2854 Start 14:13 Stop 14:44

RUN 2855 Start 14:44 Stop 15:09

beam intensity increased to 500 epA
(MASTER-TRIG \approx 3000, live time 40%)

RUN 2856 Start 14:49 Stop 15:44

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
2857	15:44	16:16	500 epA	3046	41%
2858	16:12	16:52	526 epA	3100	39%
2859	16:52	17:22	462 epA	2949	43%
2860	17:22	17:54	540 epA	3082	41%
2861	17:54	18:27	530 epA	3120	39%
2862	18:28	18:58	543 epA	3156	40%
2863	18:58	19:36	529 epA	3120	40%
2864	19:36	20:06	540 epA	3216	40%
2865	20:06	20:43	525 epA	3160	40%

Event 1390 bytes long

Body Header:

Timestamp: 380343029

SourceID: 1

Barrier Type: 0

Issue occurred in
RUNS: 2843, 2849 and
2850

No data in vx qdc's
at some point of the
run.

The issue is solved
after fixing fast-clear
cable connection.

```

02b6 2e26 001b 92f5 16ab 0000 0000 2000
2200 60dc 2000 60df 2010 40e8 2001 60e6
2011 60d9 2002 60dc 2012 60e0 2003 60d9
2013 60e1 2004 60e3 2014 60d6 2005 60dd
2015 60e6 2006 60d9 2016 60fa 2007 60cd
2017 40fe 2008 60e7 2018 60e7 2009 60cf
2019 60f2 200a 40ea 201a 60d6 200b 60f1
201b 60ea 200c 60dd 201c 60e1 200d 60ea
201d 60f4 200e 40d2 201e 60f4 200f 60d3
201f 3d7b 244e ffff ffff 2000 2a00 60c8
2800 40dc 2810 40e5 2801 40fb 2811 40e5
2802 60d2 2812 40f6 2803 40da 2813 40db
2804 40d3 2814 40dc 2805 40e6 2815 40df
2806 40e8 2816 60d4 2807 40ff 2817 60c1
2808 40de 2818 60cf 2809 40e4 2819 40e0
280a 60dc 281a 40f2 280b 40f7 281b 40d9
280c 60d2 281c 40ea 280d 40e1 281d 40f9
280e 40dd 281e 40f8 280f 60dc 281f 3ed0
2c4e ffff ffff 2000 3200 60ea 3000 60e1
3010 60eb 3001 60f9 3011 60e9 3002 60f8
3012 60ff 3003 60f4 3013 60f6 3004 60fa
3014 60d5 3005 60ee 3015 60cc 3006 60ee
3016 6103 3007 411d 3017 60e6 3008 60eb
3018 60fc 3009 60f2 3019 60d9 300a 60ea
301a 60e8 300b 4108 301b 60c8 300c 60f6
301c 60bd 300d 60f3 301d 60da 300e 60e6
301e 60f2 300f 60fb 301f 3e57 344e ffff
ffff 2000 4200 6016 4000 603a 4010 604f
4001 6032 4011 604b 4002 6047 4012 6048
4003 603e 4013 6058 4004 6016 4014 606a
4005 6035 4015 6021 4006 6047 4016 603e
4007 6050 4017 603e 4008 606e 4018 603d
4009 6060 4019 6049 400a 6039 401a 6025
400b 6038 401b 6055 400c 6033 401c 6055
400d 605d 401d 6020 400e 6051 401e 604c
400f 6020 401f 3c86 444e ffff ffff 2000
4a00 6033 4800 6045 4810 6044 4801 603e
4811 603a 4802 6031 4812 6032 4803 6034
4813 6036 4804 6033 4814 602b 4805 602b
4815 6044 4806 6026 4816 6041 4807 603c
4817 6049 4808 6048 4818 6026 4809 6032
4819 603a 480a 6043 481a 6038 480b 603d
481b 6043 480c 603a 481c 603a 480d 6028
481d 6046 480e 604c 481e 6042 480f 603c
481f 3d61 4c4e ffff ffff 2000 5200 6050
5000 603a 5010 6048 5001 6018 5011 6033
5002 6030 5012 6059 5003 602c 5013 604e
5004 6016 5014 602a 5005 6050 5015 6040
5006 6040 5016 6040 5007 4063 5017 6032
5008 604c 5018 6041 5009 6047 5019 6026
500a 603e 501a 6032 500b 6054 501b 602c
500c 606a 501c 6041 500d 6045 501d 602b
500e 6049 501e 604a 500f 602b 501f 3e6b
544e ffff ffff 000c 4000 9b39 0058 9b0a
0118 7fb7 02b8 83fb 0310 81fb 0340 5059
8a13 010c 8000 ffff ffff ffff ffff ffff
ffff 000e 4000 83e1 0030 01d0 0050 84a0

```

qdc1

qdc2

qdc3

qdc4

qdc5

qdc6

NWtdc

qdc7, qdc8 !!!

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
2866	20:43	21:12	544 epA	3230	40%
2867	21:12	21:40	550 epA	3124	40%
2868	21:41	21:59	540 epA	3156	39%
2869	Junk		No data in VW QPC's		
2870	22:11		560 epA	3236	38%

Run hang
up~~Run~~

Calibrations Post Expt.

Run 2874 Alpha source with SnPb foil

Using Pulser Cal White SEAN
Si Pulser Cal CF M

Fine Grain 21 steps 0.001V - 0.181V 5 seconds

Run 2874: Backs CBs 1, 3, 5, 7 Fine pulse

Run 2875: Backs CBs 9, 11, 13, 15 Fine pulse

Run 2876: Backs CBs 17, 19, 21, 23 Fine pulse

Run 2877: Front CBs 2, 4, 6, 8 Fine pulse

Run 2878: Front CBs 10, 12, 14, 16 Fine pulse

Run 2879: Front CBs 18, 20, 22, 24 Fine pulse

~~Low~~

Si Cal Low Range 0.15V-0.49V
21 steps 5 seconds

Run 2880: Fronts CBs 2, 4, 6, 8 Low

Run 2881: Fronts CBs 10, 12, 2, 4 Low

Run 2882: Fronts CBs 6, 8, 10, 12 Low

Run 2883: Backs CBs ~~2, 4, 6~~ 1, 3, 5, 7 Low

Run 2884: Backs CBs 9, 11, 1, 3 Low

Run 2885: Backs CBs 5, 7, 9, 11 Low

Si Cal High Range 0.49V-3.49V
21 steps 5 seconds

Run 2886: Backs CBs 1, 3, 5, 7 High

~~Run 2887: Backs CBs 9, 11, 1, 3~~

~~Run 2888: Backs CBs 5, 7, 9, 11~~

Si Cal High Range 0.49V-
25 steps 5 seconds

Si Gal High Range 0.49-4.99
31 steps 5 seconds

Run 2887 Boats CBs 1, 3, 5, 7' High

Run 2888 Boats CBs 9, 11, 13, 32' High

Run 2889 Boats CBs 5, 7, 9, 11' High

P

Run 2890 Fronts CBs 2, 4, 6, 8' High

Run 2891 Fronts CBs 0, 12, 2, 4' High

Run 2892 Fronts CBs 6, 8, 10, 12' High

0.1-5 31 Ss Course 200s 0.1-1.5 11

0	1	2
130	130	130
170	200	200
200		

SHO 0.1V-5V 31 steps Ss

Run 2893: C&P Pulse Course 170 gain 0.1V-5V Bed
31 steps Ss

Run 2894: Same as 2893

Run 2895: 130 gain SHO Course

Run 2896: 200 gain SHO Course

Sh 1 0.1V-1.5V 11 steps 5 seconds

Run 2897: CSI pulser Course 130 gain

Run 2898: CSI pulser Course 200 gain

Sh 2 ~~0.1V-1.5V~~ 11 steps 5 seconds

Run 2899 CSI Pulser Course 130 gain

Run ~~2899~~ 2900 CSI Pulser Course 200 gain

CSI Fine Grain Pulser

~~0.001V-0.3V~~ 21 steps 5 seconds

Sh 2

Run 2901 CSI Pulser Fine 130 gain

Run 2902 CSI pulser Fine 200 gain

Sh 1

Run 2903: CSI Pulser Fine 200 gain

Run 2904: CSI pulser Fine 130 gain

Sh 0 0.001V-0.3V 21 steps 5 seconds

Run 2903: CsI pulser fine ~~gain~~ 130 gain

Run 2906: CsI pulser fine 170 gain

Run 2907: CsI pulser fine 200 gain

CsI Course Pulser triggered on CsI

Sh 0 0.1V-5V 31 steps 5s

Run 2908 CsI Pulser course 200 gain

Run 2909 CsI Pulser course 170 gain

Run 2910 CsI Pulser course 130 gain

Sh 1 0.1V-1.5V 11 steps 5 seconds

Run 2911 CsI Pulser course 130 gain

Run 2912 CsI Pulser course 200 gain

Sh 2 0.1V-1.5V 11 steps 5 seconds

Run 2913 CsI Pulser course 130 gain

Run 2914 CsI Pulser course 200 gain

2915 Alpha Cal

2916 Alpha Cal Good

CSP Pulser Cal ^{2k} ~~20~~ rise time 1ms

SH0 0.1-1.5V 31 steps

Run 2990: 130 gain course

Run 2991: 170 gain course

Run 2992: 200 gain course

Sh 1 0.1V-1.5V 11 steps

~~Run 2993: 130 gain bad~~

~~Run 2994: 200 gain~~

~~Run 2995~~

~~2994: 130 gain~~

2995: 130 gain course

~~2996: 200 gain course bad~~

2997: 200 gain

Sh 2 0.1V-1.5V 11 steps

~~2997: 130 gain~~

~~2998: 200 gain~~

2998: 130 gain course

2999: 200 gain course

CSF Rise Gain Pulser rise from 1ms
0.001V - ~~0.01V~~ 21 steps 5 seconds
Sh 2

Run 3000: Gain 200 fine

Run 3001: Gain 130 fine

Sh 1

Run 3002: Gain 200

Run 3003: Gain 130

Sh 0

Run 3004: Gain 200

Run 3005: Gain 170

Run 3006: Gain 130

Pulser Ramp CSF rise from 10ms

Sh 0 0.1-5 31 steps

Run 3007 Gain 130

Run 3008 Gain 170 ~~changed vol for same gain 5/5~~

Run 3009 gain 200

Sh 1 0.1-1.5V 11 steps 5s

Run 3010 gain 130

Run 3011 gain 200

SH2

Run 3012 5014 130

Run 3013 5014 200

Run 3076 Alpha run 5014 501 00

Exp 2:

48Ca Beam

48Ca Beam

48Ca Beam

48Ca Beam

Target	Beam	Energy	Start	Purpose	HIRA10	mball	FA, VW+NW	Korean
CH2	8:00 non	140 MeV/u	16:00	Beam tuning	Jon, Kyle			
CH2	12:00	48Ca	0:00	setup HIRA 10 and NW+VW	Kyle	Daniele	Zibi, Kuan	
124Sn	16:00	140 MeV/u	8:00	uB+ HIRA or uB+NW	Kyle	Daniele	Zibi, Kuan	Won
124Sn	0:00	140 MeV/u	8:00	uB+ HIRA or uB+NW	Sean			
CH2	8:00	~20 AMeV	8:00	uB singles	Kyle	Tommy/	Tsang	
Offline Analysis:								

On Call: Jon Won

Date	Day	start	Energy	Target	Trigger	leader	person 1	person 2	On Call
3/9/2018	Friday	16:00	140 MeV/u	124Sn	uB+ HIRA or uB+NW	Kuan	Justin	Tommy	ejungwoo
3/10/2018	Sat	0:00		124Sn	uB+ HIRA or uB+NW	Sean			HyoSang
3/10/2018	Sat	8:00		124Sn	uB+ HIRA or uB+NW	Kyle	Fanurs		
3/10/2018	Sat	16:00		64Ni	uB+ HIRA or uB+NW	Tommy	Ding	Kuan	ejungwoo
3/11/2018	Sun	0:00		64Ni	uB+ HIRA or uB+NW	Sean			HyoSang
3/11/2018	Sun	8:00		64Ni	uB+ HIRA or uB+NW	Kyle	Fanurs		
3/11/2018	Sun	16:00		112Sn	uB+ HIRA or uB+NW	Kuan	Ding		ejungwoo
3/12/2018	Mon	0:00		58Ni	uB+ HIRA or uB+NW	Daniele			HyoSang
3/12/2018	Mon	8:00		RAMP	uB singles + 50 Hz pulser	Kyle	Kuan	Juan, Jon/	
3/12/2018	Mon	16:00		124Sn	uB+NW	Tommy	Sean		ejungwoo
3/13/2018	Tue	0:00		124Sn	uB+NW	Daniele			HyoSang
3/13/2018	Tue	8:00		124Sn	uB+NW	Kyle	Elizabeth		
3/13/2018	Tue	16:00		64Ni	uB+NW	Tommy	Sean		ejungwoo
3/14/2018	Wed	0:00		64Ni	uB+NW	Kuan			HyoSang
3/14/2018	Wed	8:00		64Ni	uB+NW	Daniele	Elizabeth		
3/14/2018	Wed	16:00		112Sn	uB+NW	Tommy	Adam	Sean	ejungwoo
3/15/2018	Thu	0:00		58Ni	uB+NW	Kuan			HyoSang
3/15/2018	Thu	8:00		124Sn	uB+NW	Sean	Elizabeth		
3/15/2018	Thu	16:00		64Ni	uB+NW	Daniele	Adam		ejungwoo
3/16/2018	Fri	0:00		64Ni	uB+NW	Sean			HyoSang
3/16/2018	Fri	8:00	56 MeV	CH2	uB singles	Kyle	Elizabeth	Tsang	
3/16/2018	Fri	16:00				Tommy			ejungwoo

Scribe Name		Sean	others		Kyle		
Run #	4000	Date	3/8/16	Start	11:46	Stop	
Type	Data	(calib)	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)		(other)		Csl Live Time		
Beam: 48Ca	Energy (MeV/u)		(140)	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	(CH2/CD2)
Trigger	Singles: MB; (HiRA) NW		coincidence: uB+HiRA; uB+NW			uball mult.	
NW HV file	(Co60)		15 MeV	25 MeV	Thres. File	(1 MeV)	2 MeV
Shadow Bar	(A+B+C+D)		none	G238F-C	130×10^{-12}	G. Master	
Csl Livetime	40%	EF_OR	4800	EB_OR	2800	Csl_OR	4600
Any Downscalers	uBDS		HiRA_DS		NWDS		
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					
Need to change timestamp back to previous page							

Scribe Name		Sean	others		Kyle		
Run #	4001	Date		Start	11:59	Stop	12:26
Type	Data	(calib)	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)		other		Csl Live Time		
Beam: 48Ca	Energy (MeV/u)		(140)	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	(CH2/CD2)
Trigger	Singles: MB; (HiRA) NW		coincidence: uB+HiRA; uB+NW			uball mult.	
NW HV file	(Co60)		15 MeV	25 MeV	Thres. File	(1 MeV)	2 MeV
Shadow Bar	(A+B+C+D)		none	G238F-C	125×10^{-12}	G. Master	
Csl Livetime	40%	EF_OR	4480	EB_OR	2600	Csl_OR	4320
Any Downscalers	uBDS		HiRA_DS		NWDS		
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					
Changed to old time stamp setup							

A1900 "Print08Mar18_11h34.txt" Thursday 11:34:42 2018-03-08 A1900
 Moe_258 *** 48Ca undeg 139.8 MeV/u to G207 prod ***
 Expt: 14030 "Measurement of fission barriers" [Chajecki, Zibi] Line: RPMS [6]
 Beam: 48 Ca 8+ 12.28 MeV/nuc (K500) 20+ 140 MeV/nuc (K1200) Chpr off
 <Att 10k> ECR, Apertures: SUSI 150.0; 25.0; 25.0 mm SHVBI: 25.0350 kV
 K500 a,b: 662 A, 618 A K1200: 826 A, -58 A RF: 23.11780 MHz

A1900 Optics: G19V8+L19_AG_v3b.data

Seg	Rigidity	Field	Radius	(live)	Difference	(Field*Radius)
Seg 0:	4.23050 Tm					
Seg 1:	4.23050 Tm	1.37485 T	3.07700 m	3.07706 m	-0.00186 %	(4.23042 Tm)
Seg 2:	4.23050 Tm	1.37330 T	3.08068 m	3.08054 m	0.00432 %	(4.23068 Tm)
Seg 3:	4.23050 Tm	1.37625 T	3.07389 m	3.07393 m	-0.00146 %	(4.23044 Tm)
Seg 4:	4.23050 Tm	1.37507 T	3.07661 m	3.07656 m	0.00150 %	(4.23056 Tm)
Seg 5:	4.23050 Tm					
Seg 6:	2.68010 Tm					
A116DS		1.35450 T	3.12482 m	3.12329 m	0.04890 %	
A132DS		-0.03520 T	120.21502 m	120.18466 m	0.02526 %	
Slits:	I181 XC,G,YC,G:	76.21,	84.45;	-77.42,	84.53	
Z001TL:	out,	Z013TL:	out;	Z014TL:	out	
Z015TL:	out,	Z016TL:	out;	Z015T[mm]	20.42 (20.422 rd) pot	0.04 V
Z030BC:	Beam Stop:	-126.19	mm			
Z037L,R:	-14.56,	15.04 mm or	-0.49,	0.51 width=	1.00 %;	Z037DC: out
Z057MS:	1.0 pct,	Z061MS:	0.5 pct			
Z059DC:	out,	Z062SC:	out,	Z059TL:	out	
Z082 XC,G,YG:	0.16,	202.85,	19.91 mm	Z082TL:	out	
Z103DC:	out,	Z106DC:	out,	Z107DC_U/_L:	out/out	
Z104DC-R	-0.003 mm;	.IRPOS	0;	.STR1	EJ212 #047 130um pl	
Z105TL:	out,	Slits:	; PPACs:	; Z107	outlim: Y	
Z104 XC,G;YC,G:	-0.00,	10.00;	7.01,	5.00	mm	
G183 Y slits:	center	-2.7277 mm,	gap	97.9353	mm	
G183PP:	out;	G184DC:	out;	G185DC:	out	

MagName	Ref[kG]	BSet[kG]	Ratio	(live)	Set[A]	Read[A]	DEVI
Z001DV	0.000	-0.576	-13616.30	-13616.29	-250.0000	-249.763	Z001DV
Z002DH	0.000	-1.662	-39274.90	-39274.90	-4.0506	-4.026	Z002DH
Z003DV	0.000	-0.536	-12664.02	-12664.02	-1.2979	-1.280	Z003DV
Z004QA	1.685	7.129	1.000000	1.000000	4.9823	4.969	Z004QA
Z005QB	-0.414	-1.751	1.000000	1.000000	-1.2220	-1.208	Z005QB
Z008DS	2.492	10.871	1.031250	1.031250	36.9587	37.051	Z008DS
Z011QA	-2.322	-10.316	1.050000	1.050000	-7.2240	-7.153	Z011QA
Z012QB	3.409	18.461	1.280000	1.280000	14.2556	14.173	Z012QB
----- Segment 1 -----							
Z017TA	0.510	2.296	1.067000	1.067000	5.9557	5.983	Z017TA
Z019TB	-1.931	-6.497	0.792000	0.792000	-17.0945	-17.088	Z019TB
Z021TC	2.285	10.599	1.085000	1.085000	22.2026	22.280	Z021TC
Z026DS	3.226	13.770	1.009018	1.009018	85.6672	85.342	Z026DS
Z031TA	5.319	23.402	1.000000	1.000000	63.2872	63.540	Z031TA
Z033TB	-3.573	-15.279	1.000000	1.000000	-44.4355	-44.554	Z033TB
Z035TC	5.082	22.419	1.000000	1.000000	58.8628	59.024	Z035TC
----- Segment 2 -----							
Z039TA	1.186	5.014	1.000000	1.000000	10.4809	10.561	Z039TA
Z041TB	-1.806	-7.662	1.000000	1.000000	-22.1343	-22.215	Z041TB
Z043TC	1.351	5.731	1.000000	1.000000	11.9707	12.026	Z043TC
Z048DS	-3.226	-13.765	1.008663	1.008663	-89.1487	-89.309	Z048DS
Z053TA	2.317	9.887	1.000000	1.000000	20.6909	20.632	Z053TA
Z055TB	-3.361	-14.466	1.000000	1.000000	-39.1309	-39.061	Z055TB
Z057TC	2.638	11.497	1.000000	1.000000	116.7964	116.623	Z057TC
----- Segment 3 -----							
Z062TA	2.638	11.497	1.000000	1.000000	116.7823	116.678	Z062TA
Z064TB	-3.361	-14.466	1.000000	1.000000	-39.2796	-39.244	Z064TB

Run 4001 Microball



X:\aminc\user\615190\Spectra\merged\win-files\micrball\run_4001\run_4001.PID.vim

File Window Spectra Options Graph Objects

Counts 0

14.01

1.282.50

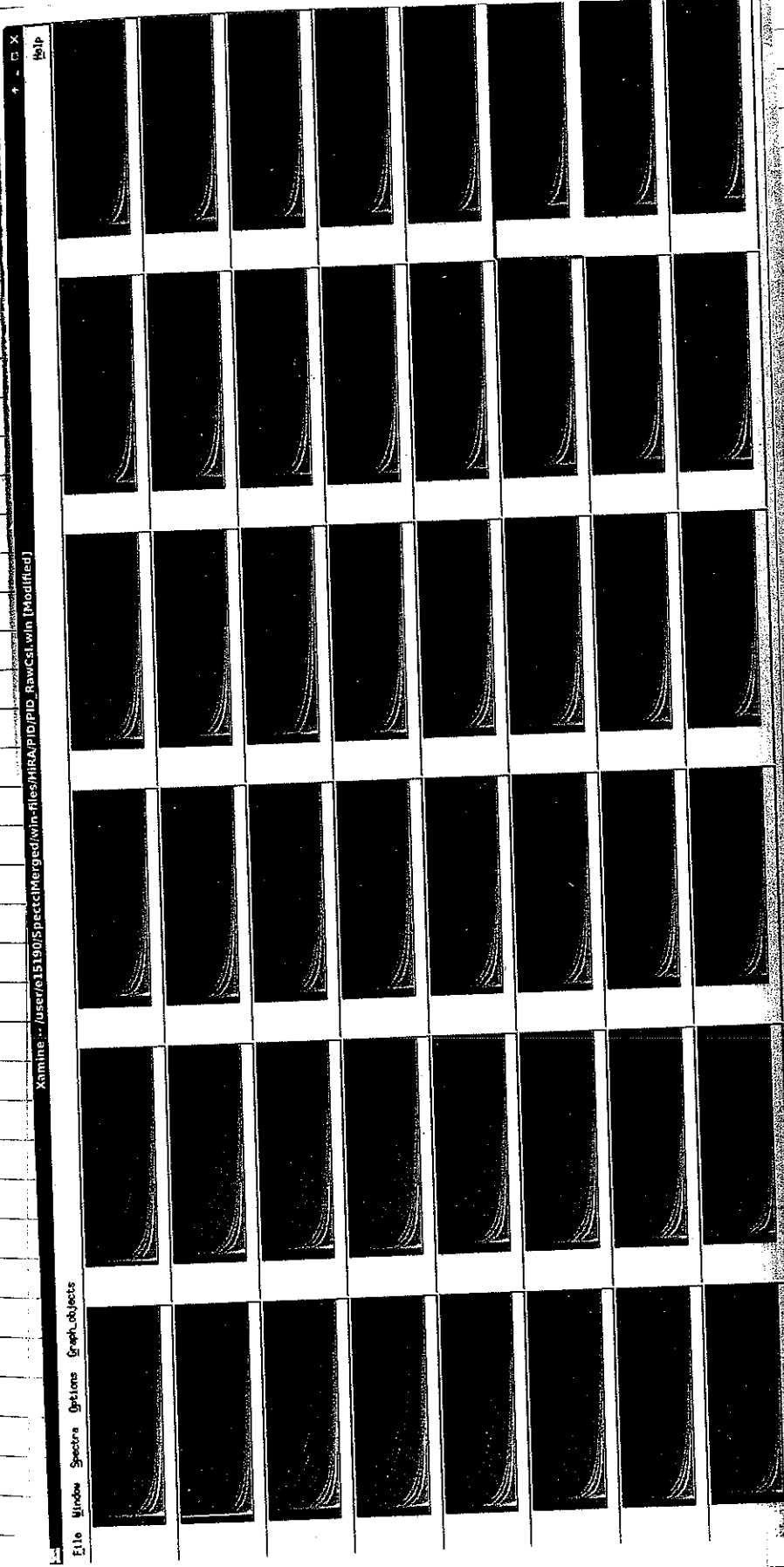
Spectrum 29

Geometry J Zoom Update All Expand Update Selected UnExpand Info F. Log F. Map

Harker Summing Region Integrate

C/L Band Cursor

Run 4001 H:PA Pd



Xamine... /user/e15190/SpectriMerged/win-Files/HRA/PID/PID_RawCsl.win [Modified]

File Window Spectra Options Graph Objects

Scribe Name Sean		others					
Run # 4002	Date	Start 12:27		Stop			
Type	Data	call	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)		other		Csl Live Time		
Beam: 48Ca	Energy (MeV/u)		140	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB; HiRA NW		coincidence: uB+HiRA; uB+NW			uball mult.	
NW HV file	Co60		15 MeV	25 MeV	Thres. File	1 MeV	2 MeV
Shadow Bar	A+B+C+D		none	G238F-C	G. Master		
Csl Livetime 40%	EF_OR		EB_OR		Csl_OR		
Any Downscalers	uBDS		HiRA_DS		NWDS		
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					
Csl pedestal off / 2:16 starting and stopping beam							

Run 4003 Same as above, Csl pedestal off

(Junk) Start: 12:42
Stop: 12:47

Scribe Name <i>Scan</i>		others <i>Zibi</i>					
Run # <i>4004</i>	Date	Start <i>2:48</i>		Stop <i>13:32</i>			
Type	Data	<i>(calib)</i>	RAMP	alpha	pulser	source	junk
DAQ	<i>Merged (13190)</i>		other	Csl Live Time		<i>40%</i>	
Beam: <i>48Ca</i>		Energy (MeV/u)		<i>(140)</i>	56		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	<i>(CH2/CD2)</i>
Trigger	Singles: MB; <i>(HIRA)</i> , NW		coincidence: uB+HIRA; uB+NW			uball mult.	
NW HV file	<i>(Co60)</i>		15 MeV	25 MeV	Thres. File	<i>(1 MeV)</i>	2 MeV
Shadow Bar	<i>(A+B+C+D)</i>		none	G238F-C	<i>(2e-10⁻¹²)</i>	G. Master	
Csl Livetime	EF_OR	<i>476</i>	EB_OR	<i>2706</i>	Csl_OR	<i>4300</i>	
Any Downscalers	uBDS		HIRA_DS	NWDS			
Check HIRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HIRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Run *4005* Ca48 140MeV/A, CH2 target, HIRA Singles
 start: *13:33*
 stop: *13:53*

3:09 PM

For NW: ① unplug NNB-1-08 10% type from Korean

- ② Connect: 1. NW Local Trigger to NW switcher #23
 2. NW Fast Trigger of NNB-1-08 to NW switcher #24.
 3. NNB-1-08 10% type to NW switcher #26

For HIRA: ① Changed Telc 5 EF chip board to fix high threshold issue.

uBall DS = ~~301~~ 301, HIRA = 301

Run *4006* Ca48 140MeV/A, Sn124 ← Junk

Scribe Name		Kuan Zhu		others		Zibi, Daniele, Tommy, Betty	
Run #	4007	Date	03/08/2018	Start	16:48	Stop	17:17
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	Merged (15196)		other		Csl Live Time		
Beam: 48Ca	Energy (MeV/u)		(140)	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	(124Sn(6.5))	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB, HiRA, NW		coincidence: uB+HiRA; uB+NW		uball mult. 3		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	360 nepA	G. Master	2657	
Csl Livetime	0.42	EF_OR	13331	EB_OR	5221	Csl_OR	5083
Any Downscalers	uBDS	301	HiRA_DS	301	NWDS	0	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Run 4008	start: 17:18	stop: 17:34
Run 4009	Junk	
Run 4010	Junk	
Run 4011	Tune the beam start: 18:31	
Run 4015	Magnet in Beamline has tripped off No beam	
Run 4016	Downscale 100 No beam, only NW cosmic runs Master TRG rate 390 Hz	
Run 4017	No beam, Downscale 1	

Scribe Name Sean		others		Start 1:00		Stop 1:42	
Run # 4021		Date 3/9/18		alpha		source junk	
Type	Data	calib	RAMP	pulsar		CSL Live Time 45	
DAQ		Merged (15190)		other			
Beam: 48Ca		Energy (MeV/u)		140	56		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: (MB) (HIRA) NW	coincidence	(B+HIRA; uB+NW)		uball mult. 3		
NW HV file	(060)	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	82 na	G. Master	3750	
CSL Livetime	EF_OR	4000	EB_OR	2100	CSL_OR	3400	
Any Downscalers	uBDS	301	HIRA_DS	1	NWDS		
Check HIRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HIRA config, threshold and CSL gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Wen said that only Bar B24, B1, B2, B3 are connected to the fast amps. We also give them B0 and A0. \leftarrow This information was wrong according to Wen

① We turned off the voltages in B0, A0 in FA HV channel
 NWB-R-0: -2157V
 NWB-L-0: -2031V
 NWA-R-0: -2165V
 NWA-L-0: -2090V
 see Khan's logbook pg 113.

② We turned off voltages of B24, B1, B2, B3.

Bar	HV channel	Voltage	HV channel	Voltage
24	0	-2210	40	-2100
1	1	-2070	41	-2014
2	2	-2167	42	-1932
3	3	-2115	43	-2100

Start Run #4022.
 Unfortunately we still see the problems with rising slow signals in wall B. Wall A looks better.

Scalars Hira Corn. No Neutron Wall
Live

Master: 1000
Si ES : 4300 70%
Si EB : 2200 66%
Csi Or scori 3800 77%
Microball : 11000 74%

Scribe Name Sean		others					
Run #	4023	Date		Start (1:2)		Stop 2:1	
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	(Merged 15190)		other	Csi Live Time			
Beam: 48Ca	Energy (MeV/u)		140	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB; HiRA; NW		coincidence: uB+HiRA		uB+NW	uball mult. 3	
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	250 eV	G. Master	2100	
Csi Livetime	EF_OR	9800	EB_OR	3700	Csi_OR	4580	
Any Downscalers	uBDS	301	HiRA_DS	out	NWDS	out.	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csi gain files						Yes/no	
Comments:	https://groups.nsl.msu.edu/hira/runlog/						
Neutron Wall Power turned off							

Zihui / Bill / Kyle / Kuan Look at

Page 49. I + has what Beth, and I
tried last night for fixing the
NW's

~~_____~~

Run 4024 Start: 3:08
Stop: 3:37

Run 4025 Start: 3:38
Stop: 4:07

G 238-F-C: 270 na

Sr Back: 3900
Sr Front: 10,000
Csr or Ssr: 4600 51% Live
Global Master: 2100

Run 4026 Start: 4:08
Stop: 4:39

Run 4027 Start: 4:40
Stop: 5:08

G 238 F-C: 250 na

Run ~~4027~~ 4028 Start: 5:08
Stop: 5:37

Run 4029 Start: 5:38
Stop: 6:08

G 238 F-C: 270 na

Run 4030 Start: 6:08
Stop: 6:55

Master 2000

Sr F 4700
Sr B 3600
Csr or Ssr 4500 51% Live

Run 4031 Start: 6:55
Stop: 7:31

Run 4032

Start: 07:31

End: 07:47

Scribe Name <i>Seon</i>		others					
Run #	4033	Date		Start	7:55	Stop	
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)	other			Csl Live Time	99%	
Beam: 48Ca	Energy (MeV/u)		(140)	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB; HiRA; NW		coincidence: uB+HiRA		uB+NW	uball mult. 3	
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 (MeV)	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	G. Master		99	
Csl Livetime	EF_OR	633	EB_OR	800	Csl_OR	2000	
Any Downscalers	uBDS	301	HiRA_DS	NWDS			
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:	https://groups.nsci.msu.edu/hira/runlog/						

★

On 03/07/2018

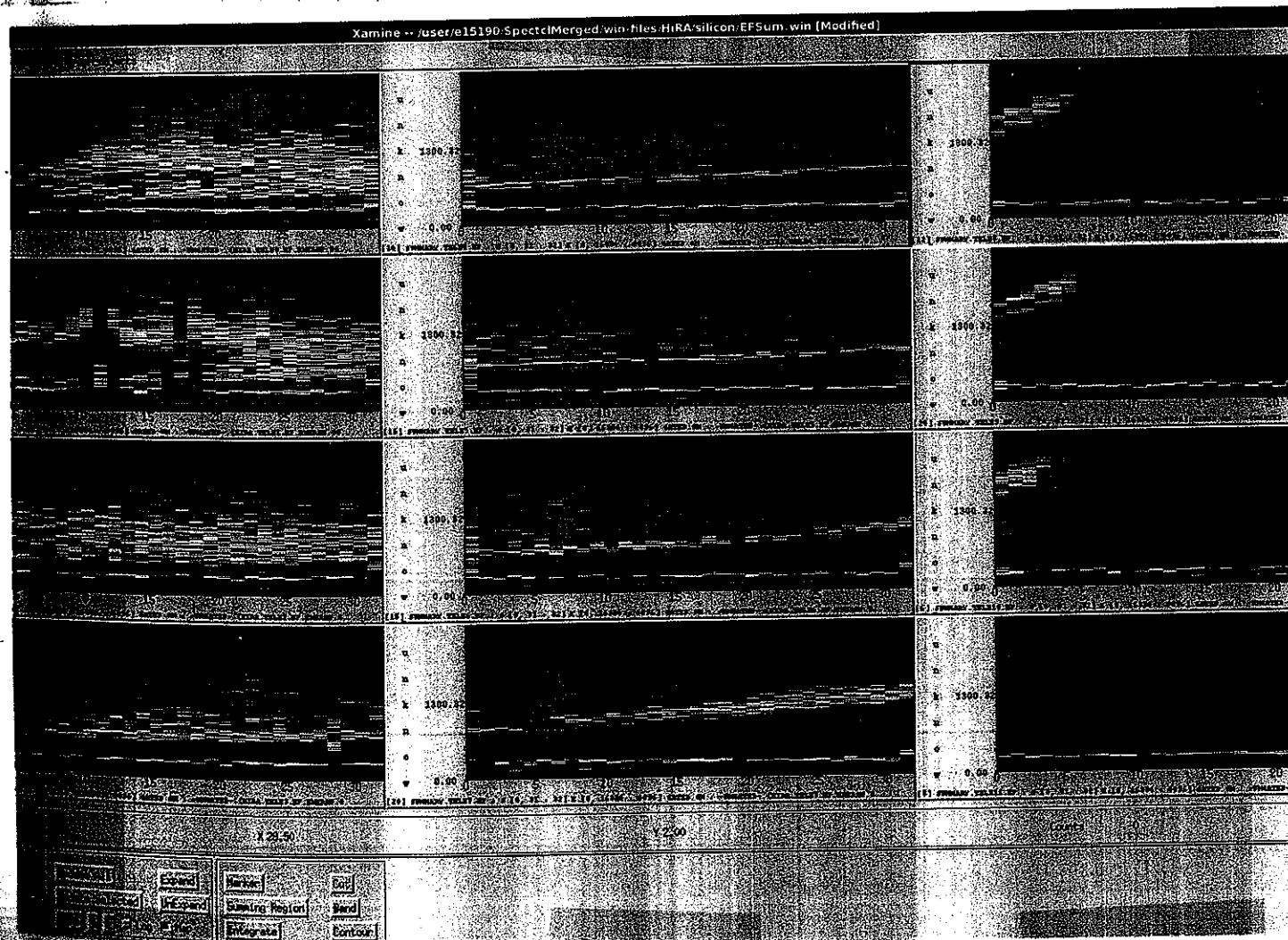
Some changes were done on NW output connection:

NWA - 16, 19

NWB - 1, 2, 3, 4, 24, 2

} these channels are connected
to fast Amp and then to
Korean Fast QPC.

Scribe Name		Kuan		others		Bill, Betty, Zibi, Kyle, Tommy	
Run #	4035	Date	03/09/2018	Start	11:48	Stop	12:22
Type	Data	(calib)	RAMP	alpha	pulser	source	junk
DAQ	(Merged (15190))		other	Csl Live Time		0.64	
Beam: 48Ca	Energy (MeV/u)		140	56	(28)		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	(CH2/CD2)
Trigger	(Singles: MB; HIRA; NW)		coincidence: uB+HiRA; uB+NW		uball mult. 3		
NW HV file	(Co60)	15 MeV	25 MeV	Thres. File	(1 MeV)	2 MeV	
Shadow Bar	(A+B+C+D)	none	G238F-C	80 nepA	G. Master	2737	
Csl Livetime	0.64	EF_OR	1905	EB_OR	1554	Csl_OR	2384
Any Downscalers	uBDS	301	HiRA_DS	1	NWDS	32	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					



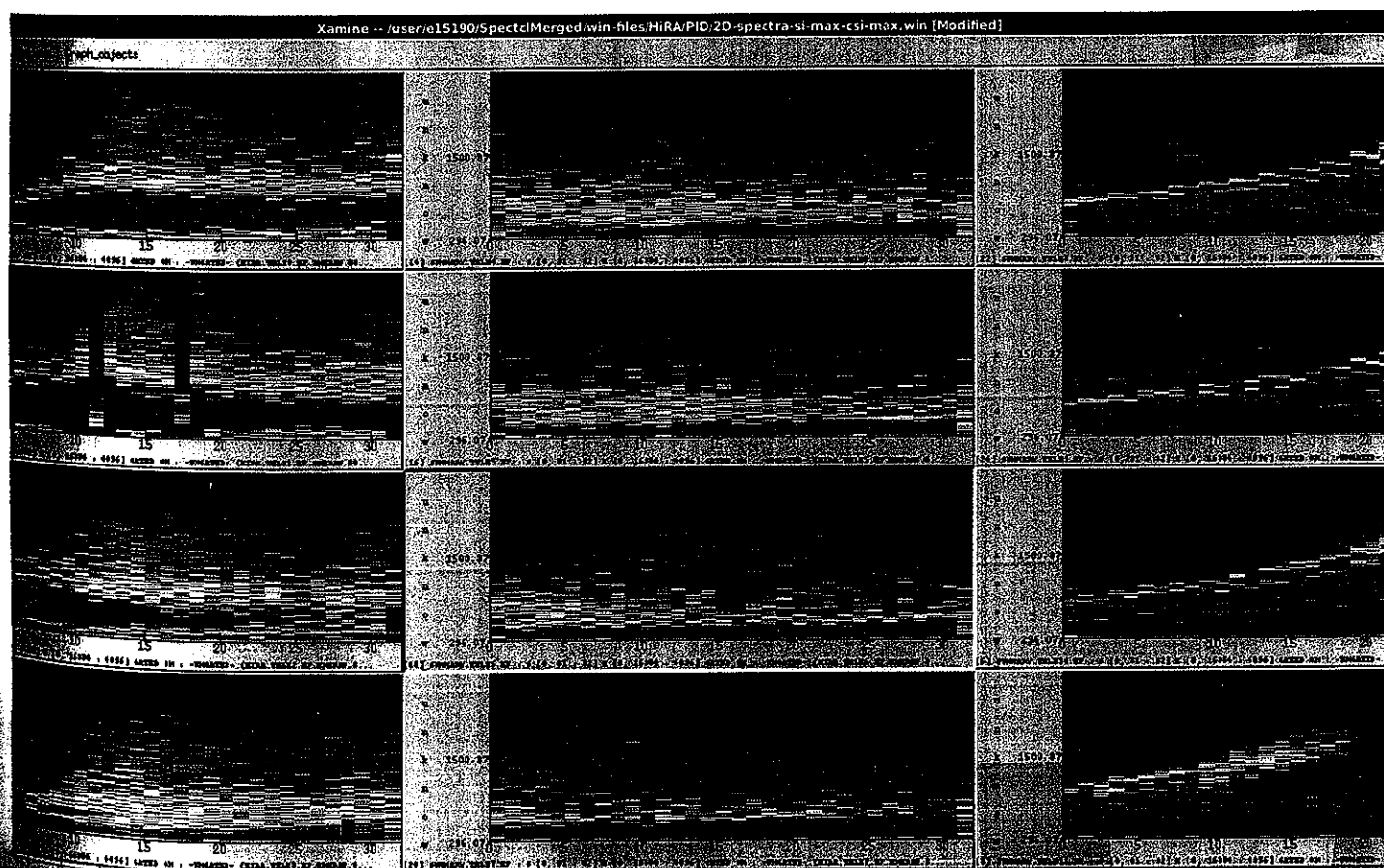
Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C ✓	Master_Trig	Csl_OR Live Time
4036	13:09		82 × 10⁻¹²	2997	0.6
4036	13:09	13:39	82 × 10 ⁻¹²	2997	0.6
4037	13:39	13:58	81 × 10 ⁻¹²	2747	0.63

Scribe Name <i>Dm</i>		others					
Run #	<i>4039</i>	Date	<i>03/09/2018</i>	Start	<i>16:16</i>	Stop	<i>16:31</i>
Type	Data	<i>calib</i>	RAMP	alpha	pulser	source	junk
DAQ	<i>Merged (15190)</i>		other	Csl Live Time			
Beam	<i>48Ca</i>	Energy (MeV/u)	140	<i>56</i>			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	<i>CF2/CD2</i>
Trigger	<i>Singles: MB; HiRA; NW</i>		coincidence: uB+HiRA; uB+NW			uball mult. <i>3</i>	
NW HV file	<i>off</i>	<i>Co60</i>	15 MeV	25 MeV	Thres. File	<i>1 MeV</i>	2 MeV
Shadow Bar	<i>A+B+C+D</i>		none	G238F-C	<i>100 eppA</i>	G. Master	<i>2387</i>
Csl Livetime	EF_OR			EB_OR	Csl_OR		
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	<i>1</i>	NWDS	<i>32</i>	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

~~Run 4040 Start~~

The Glom window was set incorrectly to 500 clock ticks (aka 1ms) so too many events were being glommed to getraw. This has been corrected.

Scribe Name		Om					others Kyle, Zibi, Lodero				
Run #	4040	Date	03/09/2018		Start	16:32		Stop	16:52		
Type	Data	calib	RAMP	alpha	pulser	source	junk				
DAQ	Merged (15190)		other			Csl Live Time					
Beam:	48Ca	Energy (MeV/u)		140	56						
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	(H2/CD2)				
Trigger	Singles: MB; HIRA; NW		coincidence: uB+HIRA; uB+NW			uball mult. 3					
NW HV file	off	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV				
Shadow Bar	A+B+C+D		none	G238F-C	90 epA	G. Master					
Csl Livetime	EF_OR		EB_OR		Csl_OR						
Any Downscalers	uBDS	301	HIRA_DS	1	NWDS	32					
Check HIRA Voltage/current (once every shift)							yes/no				
Check coolant level (whenever the vault is open)							yes/no				
Check summary spectra, PID spectra (once a shift)							Yes/no				
Check HV files, HIRA config, threshold and Csl gain files							Yes/no				
Comments:	https://groups.nsl.msu.edu/hira/runlog/										
New Glom Window "20"											



Scribe Name <i>DM</i>		others					
Run # <i>4041</i>	Date		Start <i>18:01</i>		Stop <i>18:04</i>		
Type	Data	<i>calib</i>	RAMP	alpha	pulser	source	junk
DAQ	<i>Merged (15190)</i>		other		Csl Live Time		
Beam <i>48Ca</i>	Energy (MeV/u)		<i>140</i>		56		
Target	viewer	<i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB; HiRA; NW		<i>coincidence: uB+HiRA; uB+NW</i>		uball mult. <i>3</i>		
NW HV file	<i>Co60</i>		15 MeV	25 MeV	Thres. File	1 MeV	2 MeV
Shadow Bar	<i>A+B+C+D</i>		none	G238F-C	G. Master		
Csl Livetime	EF_OR		EB_OR		Csl_OR		
Any Downscalers	uBDS		HiRA_DS		NWDS		
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name		others					
Run # <i>4042</i>	Date		Start <i>18:15</i>		Stop		
Type	<i>Data</i>	calib	RAMP	alpha	pulser	source	junk
DAQ	<i>Merged (15190)</i>		other		Csl Live Time		
Beam <i>48Ca</i>	Energy (MeV/u)		<i>140</i>		56		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	<i>124Sn(6.5)</i>	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB; HiRA; NW		<i>coincidence: uB+HiRA; uB+NW</i>		uball mult. <i>3</i>		
NW HV file	<i>Co60</i>		15 MeV	25 MeV	Thres. File	<i>1 MeV</i>	2 MeV
Shadow Bar	<i>A+B+C+D</i>		none	G238F-C	<i>305 ePA</i>	G. Master	
Csl Livetime	EF_OR		EB_OR		Csl_OR		
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	<i>1</i>	NWDS	<i>32</i>	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Run 4043 same as 4042
 Start 18:48
 Stop 18:49

Patched out QDC(NW) Dis. Gate & its fast busy to switcher #24, 25.
 But fast busy isn't merged into total busy for Dis. Gate vetoing

Scribe Name	Betty 4044		others Kuan, Kyle, Jr				
Run #	4044	Date	3/9/18	Start	19:13	Stop	19:23
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)		other	Csl Live Time		0.40	
Beam: 48Ca	Energy (MeV/u)		(140)	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	(124Sn(6.3))	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB; HiRA; NW		coincidence: uB+HiRA; uB+NW		uball mult.		
NW HV file	(Co60)	15 MeV	25 MeV	Thres. File	(1 MeV)	2 MeV	
Shadow Bar	(A+B+C+D)	none	G238F-C	375	G. Master		
Csl Livetime	EF_OR		EB_OR		Csl_OR		
Any Downscalers	uBDS	301	HiRA_DS	6	NWDS	0	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:	https://groups.nsl.msu.edu/hira/runlog/						

Bill & Kuan went through the events on scope for QDC Dis. Gate & its fast busy, we saw 5/100 bad events (in 5 bad ~~events~~ events, 3 is pile ups, 2 is stretching of gate)

Then Kuan put the fast busy merged into total busy for QDC gate vetoing
 RUN 4045 Start: 19:29 Stop: 19:50

@ 8:30 pm, Put back NWA - 16, 19
 NWB - 1, 2, 3, 4, 24, 2 to fast Amp then Korean Fast QDC

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4046	20:39	21:08	715 nepA		
4047	21:08	21:37	330 epA	2624	0.45
4048	21:37	22:08	362	2628	0.41
4049	22:08	22:39	298	2473	0.44
4050	22:39	23:10	355	2596	0.41
4051	22:10	23:38	283	2300	0.44
4052	23:39	0:06	284	2100	0.45
4053	0:07	00:41	270	2250	0.44
4054	00:41	1:11	300	2300	0.43

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4055	1:12	1:48	280	2200	0.45
4056	1:43	2:16	270	2100	0.45
4057	2:16	2:46	280	2200	0.43
4058	2:47	3:17	260	2100	0.46
4059	3:17	3:19	2	2100	
4060	6:46	7:15	290 290	2200	0.45
4061	7:15	7:45	285	2300	0.45
4062	7:45	8:15	270	2100	0.45
4063	8:16	8:46	285	2200	0.47

Seen: Run 4059 the beam source tripped. ~~They~~
 → Operators took away the key

Got Beam back at 6:47

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4064	8:46	9:16	285	2200	0.47
4065	9:17	9:47	260	2150	0.48
4066	9:48	10:19	280	2200	0.47
4067	10:20	10:51	270	2200	0.47
4068	10:52	10:56	270	2200	0.47
4069	10:56	11:24	270		
4070	11:28	11:37	270		
4071	11:39	12:04	230		

Zibi stopped to do some tests. (#4068)

4069, 4070, 4071 : Zibi testing

-noon, Mar 10.

12:05 Zibi went into the vault.

2:40 Zibi in vault.

4074

Start 12:52 Stop 13:20

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4075	13:44	14:14	230	2309	0.44
4076	14:14	14:45	300	2163	0.47
4077	14:45	15:11	295	2358	0.43
4078	15:11	15:46	293	2443	0.42

RUN 4079 Start 15:56 Stop 15:59 Life time 0.94
Blank target; rest is same Master Trig 108

RUN 4080 Start 16:00 Stop: 16:11

No beam, blank target

Scribe Name OM		others					
Run # 4081	Date 03/10/2018	Start 16:44			Stop 16:46		
Type Data	calib	RAMP	alpha	pulser	source	junk	
DAQ	Merged (15190)	other			Csl Live Time		
Beam: 48Ca	Energy (MeV/u)		140	56			
Target viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2	
Trigger	Singles: MB; HiRA; NW		coincidence: uB+HiRA; uB+NW		uball mult. 3		
NW HV file	Co60	15 MeV	25 MeV	Thres. File 1 MeV	2 MeV		
Shadow Bar	A+B+C+D	none	G238F-C	277 cPA	G. Master	95	
Csl Livetime 0.93	EF_OR	640	EB_OR	840	Csl_OR		
Any Downscalers	uBDS	301	HiRA_DS	0	NWDS	0	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name OM		others					
Run # 4082	Date 03/10/2018	Start 16:55			Stop 17:25		
Type Data	calib	RAMP	alpha	pulser	source	junk	
DAQ	Merged (15190)	other			Csl Live Time 0.40		
Beam: 48Ca	Energy (MeV/u)		140	56			
Target viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2	
Trigger	Singles: MB; HiRA; NW		coincidence: uB+HiRA; uB+NW		uball mult. 3		
NW HV file	Co60	15 MeV	25 MeV	Thres. File 1 MeV	2 MeV		
Shadow Bar	A+B+C+D	none	G238F-C	280 cPA	G. Master	2287 27.1	
Csl Livetime	EF_OR		EB_OR		Csl_OR		
Any Downscalers	uBDS	301	HiRA_DS	0	NWDS	0	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4083	17:25	17:55	366	2671	0.41
4084	17:55	18:26	375	2677	0.41
4085	18:27	18:57	360	2626	0.41
4086	18:58	19:35	410	2781	0.39
4087	19:35	20:07	370	2660	0.42
4088	20:08	20:41	390	2685	0.40
4089	20:41	21:12	383	2611	0.41
4090	21:13	21:44	350	2507	0.39
4091	21:44	22:16	420	2422	0.40

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4092	22:17	22:47	423	2640 ^u	0.41
4093	22:47	23:18	340	2280	0.45
4094	23:18	23:46	348	2302	0.44
4095	23:46	00:16	250	1700	0.51
4096	00:17	1:00	240	1900	0.48
4097	1:01	1:32	170	1400	0.53
4098	1:32	3:12	300	2000	0.42
4099	3:12	3:40	310	2200	0.49
4100	3:40	4:12	320	2400	0.45

→ DAYLIGHT SAVINGS TIME!!!

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4101	4:12	4:44	350	2500	0.44
4102	4:45	5:12	320	2400	0.46
4103	5:13	5:41	300	2300	0.47
4104	5:41	6:10	280	2200	0.47
4105	6:11	6:39	260	2150	0.46
4106	6:39	7:08	290	2000	0.51
4107	7:08	7:39	260	2100	0.48
4108	7:39	8:10	320	2400	0.46
4109	8:10	8:40	300	2300	0.47

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4110	8:41	9:11	295	2290	0.47
4111	9:11	9:42	300	2300	0.48
4112	9:42	10:12	295	2270	0.48
4113	10:13	10:43	290	2250	0.48
4114	10:43	11:13	295	2275	0.47
4115	11:14	11:44	310	2300	0.48
4116	11:44	12:14	280	2200	0.49
4117	12:15	12:45	310	2230	0.49
4118	12:45	13:20	340	2400	0.46

X
↓

STH
← Good
for VV
← Several
VV Channels
went bad

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4119	13:21	13:52	310	2400	0.46
4120	13:52	14:23	290	2200	0.47
4121	14:23	14:56	300	2300	0.47
4122	14:56	15:30	320	2365	0.47
4123	15:31	16:09	300	2400	0.46

NWB 11, NWA 19 have no signals

Scribe Name		Kuan		others		Bill, Kyle, Om	
Run #	4124	Date	03/11/2018	Start	16:32	Stop	16:38
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)		other		Csl Live Time		0.96
Beam:	48Ca	Energy (MeV/u)		140	56		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles	MB; HiRA; NW	coincidence: uB+HiRA; uB+NW			uball mult. 3	
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	370 pA	G. Master	114	
Csl Livetime	0.96	EF_OR	640	EB_OR	463	Csl_OR	2723
Any Downscalers	uBDS	301	HiRA_DS	0	NWDS 0		
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name		Kuan		others		Bill, Kyle, Om	
Run #	4125	Date	03/11/2018	Start	17:06	Stop	17:18
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)		other		Csl Live Time		
Beam:	48Ca	Energy (MeV/u)		140	56		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles	MB; HiRA; NW	coincidence: uB+HiRA; uB+NW			uball mult. 3	
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	370	G. Master		
Csl Livetime	EF_OR		EB_OR		Csl_OR		
Any Downscalers	uBDS		HiRA_DS		NWDS		
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					
More and more channels of VW become weird!							

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4126	17:23	17:51	~400 (RF knocked out at the end)	2230	0.45
4127	17:52	18:22	350 epA	2246	0.46

Took out μ Ball + MV ~~trigger~~ ; restart HV power crate

Scribe Name		Kuan	others		Kyle, Bill, Om		
Run #	4128	Date	03/11/2018	Start	18:30	Stop	19:00
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)	other			Csl Live Time	0.47	
Beam:	48Ca	Energy (MeV/u)		140	56		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles MB	HiRA: NW	coincidence: μ B+HiRA		μ B+NW	uball mult. 3	
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	345	G. Master	2050	
Csl Livetime	0.49	EF_OR	1244	EB_OR	~5082	Csl_OR	4430
Any Downscalers	μ BDS	ϕ	HiRA_DS	301	NWDS		
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups...					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4129	19:01	19:33	298 epA	2987	0.51
4130	19:34	20:07	315	2580	0.39 (beam intensity fluctuation)
4131	20:07	20:12	Stopped due to beam intensity		0.18
4132	20:12	20:51	No beam returned at segment		Magat Z002104
↓	↓	↓	line up on spot.		
4135	01:08	01:11	320	2404	0.21
			Sunk NO BEAM		

beam intensity variation in 100s (min) intensity 40-6238 epA 380-390

beam intensity fluctuation

Scribe Name <i>Danielle</i>		others					
Run # <i>4136</i>	Date <i>03/12/2018</i>	Start <i>01:12</i>	Stop <i>01:43</i>				
Type <i>Data</i>	calib	RAMP	alpha	pulser	source	junk	
DAQ <i>Merged (15190)</i>	other		Csl Live Time		<i>58%</i>		
Beam: 48Ca	Energy (MeV/u) <i>140</i>		56				
Target viewer	blank	<i>58Ni(4.9)</i>	<i>64Ni(5.3)</i>	124Sn(6.5)	112Sn(6.1)	CH2/CD2	
Trigger	Singles: <i>MB</i>	HiRA: NW	coincidence: <i>uB+HiRA</i>		uB+NW	uball mult. <i>3</i>	
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	<i>1 MeV</i>	2 MeV	
Shadow Bar	<i>A+B+C+D</i>	none	<i>G238F-C</i>	<i>300 epA</i>	G. Master	<i>2000</i>	
Csl Livetime <i>58%</i>	EF_OR	<i>7400</i>	EB_OR	<i>3400</i>	Csl_OR	<i>4100</i>	
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	<i>/</i>	NWDS	<i>/</i>	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					
<i>Running without NW/VW</i>							

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
<i>4137</i>	<i>01:46</i>	<i>02:17</i>	<i>600 epA</i>	<i>2300</i>	<i>47%</i>
<i>4138</i>	<i>02:17</i>	<i>03:08</i>	<i>600 epA</i>	<i>2400</i>	<i>45%</i>
<i>4139</i>	<i>03:09</i>	<i>03:39</i>	<i>580 epA</i>	<i>2320</i>	<i>47%</i>
<i>4140</i>	<i>03:39</i>	<i>04:10</i>			
<i>4141</i>	<i>04:10</i>	<i>04:43</i>	<i>500 epA</i>	<i>1459</i>	<i>51%</i>
	<i>Run stopped early to change target</i>				

Scribe Name <u>Domicile</u>				others			
Run # <u>4142</u>	Date <u>03/12/2018</u>	Start <u>04:24</u>	Stop <u>04:58</u>				
Type <u>Data</u>	calib	RAMP	alpha	pulser	source	junk	
DAQ <u>Merged (15190)</u>	other			Csl Live Time	<u>41%</u>		
Beam: <u>48Ca</u>	Energy (MeV/u) <u>140</u>		56				
Target viewer	blank	58Ni(4.9)	64Ni(5.3)	<u>124Sn(6.5)</u>	112Sn(6.1)	CH2/CD2	
Trigger	Singles: <u>MB</u> ; HiRA; NW	coincidence: <u>uB+HiRA</u> ; uB+NW			uball mult. <u>3</u>		
NW HV file	<u>Co60</u>	15 MeV	25 MeV	Thres. File <u>1 MeV</u>	2 MeV		
Shadow Bar	<u>A+B+C+D</u>	none	<u>G238F-C</u>	<u>500</u>	G. Master	<u>2459</u>	
Csl Lifetime <u>41%</u>	<u>EF_OR</u>	<u>13000</u>	<u>EB_OR</u>	<u>5300</u>	Csl_OR	<u>5400</u>	
Any Downscalers	<u>uBDS</u>	<u>301</u>	<u>HiRA_DS</u>	<u>NWDS</u>			
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:	https://groups.nsl.msu.edu/hira/runlog/						

Free

10 min
10 min
10 min
5 min
5 min
5 min
10 min
5 min
5 min
10 min
5 min
5 min
10 min
5 min
10 min
5 min
10 min
5 min
10 min
5 min

Run #	Start	Stop	G238F-C	Master Trig	Csl_OR Live Time
4143	04:59	05:29	500 epA	2396	43%
4144	05:29	06:01	520 epA	2452	42%
4145	06:02	06:33	520 epA	2330	43%
4146	06:33	07:06	500 epA	2337	44%
4147	07:06	07:38	450 epA	2240	46%
4148	07:38	08:09	460 epA	2250	45%
4149	08:10	08:50	460 epA	2276	46%
4150	08:51	09:30	464 epA	2299	45%

• Setting up for ramping runs: trigger at uBall DS1, ~~HiRA~~

• Now, signaling out beam intensity + pulser

Artis LiveDSS
1M 1k
0.1M 260V

changed beam intensity so that

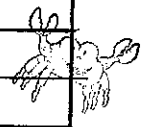
10K → ~300 K
 0.1M → ~40 K

March 12, 2018

Cross-section run sheets				48Ca	E/A = 140 MeV			
Time	Run #	Att	Target	Scintillator (in/out)	uBall mult 1 or 3	Scalers		
						Master.trig	DSS_Raw	DSS_Live
10 min	4151	10k	Blank	IN	3	29711	214 M	123 M
10 min	4152	10k	Blank	IN	1	47359	209 M	120 M
10 min	4153	NOB	-	IN	1	42308	10	10
5 min	4154	10k	¹¹² Sn	IN	1	36349	115 M	60 M
	4155	10k	¹¹²Sn	IN	3	21232	112 M	59 M
5 min	4156	10k	¹¹² Sn	IN	3	21232	112 M	59 M
	4157	10k	⁵⁸Ni	IN	3	28778	18	18
10 min	4157	NOB	-	IN	3	28778	18	18
5 min	4158	10k	⁵⁸ Ni	IN	3	21489	132 M	66 M
5 min	4159	10k	⁵⁸ Ni	IN	1	41373	153 M	71 M
10 min	4160	NOB	-	IN	1	41442	11	9
	4161	10k	⁶⁴Ni	IN	1	34523	103 M	54 M
	4162	0.1M	⁶⁴Ni	IN	1	46627	32 M	27 M
5 min	4162	10k	⁶⁴ Ni	IN	1	34523	103 M	54 M
10 min	4163	0.1M	⁶⁴ Ni	IN	1	46627	32 M	27 M
10 min	4164	0.1M	⁶⁴ Ni	IN	3	31937	26 M	23 M
	4165	10k	⁶⁴Ni	IN	3	21083	94 M	52 M
5 min	4166	10k	⁶⁴ Ni	IN	3	21083	94 M	52 M
10 min	4167	NOB	-	IN	3	28801	11	4
5 min	4168	10k	¹²⁴ Sn	IN	3	20461	107 M	57 M
10 min	4170	0.1M	¹²⁴ Sn	IN	3	30151	21 M	18 M
10 min	4171	0.1M	¹²⁴ Sn	IN	1	41786	13 M	12 M
5 min	4172	10k	¹²⁴ Sn	IN	1	26789	68 M	42 M
10 min	4173	NOB	¹²⁴ Sn	+	1	39881	16	16
5	4174	10k	¹²⁴ Sn	Out	1	23555	213	197
10	4175	NOB	-	Out	1	31534	20	19
5	4176	10k	⁶⁴ Ni	Out	1	22912	221	206
10	4177	NOB	-	Out	1	39074	19	19
5	4178	10k	⁵⁸ Ni	Out	1	26658	115	105
10	4179	NOB	-	Out	1	38997	20	20
5	4180	10k	¹¹² Sn	Out	1	24932	296	280
10	4181	NOB	-	Out	1	38605	20	20
9	4182	10k	blank	Out	1	18215	8	8

Stopped to lower beam by ~30%

adjusted beam again... to ~30k



Scribe Name		Sean		others			
Run #	4183	Date		Start	15:58	Stop	16:09
Type	Data	calib	RAMP	alpha	pulser	source	junk?
DAQ	Merged (15190)		other		Csl Live Time		
Beam:	48Ca	Energy (MeV/u)	(140)	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	(124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB; HiRA; NW		coincidence: uB+HiRA; uB+NW		uball mult. ↑		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	(1 MeV)	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C		G. Master		
Csl Livetime	EF_OR		EB_OR		Csl_OR		
Any Downscalers	uBDS	301	HiRA_DS		NWDS		
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					
Ramp up beam intensity, need to change multiplicity							

Game them back to time at 16:09

Scribe Name		Sean		others			
Run #	4189	Date		Start	16:20	Stop	
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)		other		Csl Live Time		
Beam:	48Ca	Energy (MeV/u)	(140)	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB; HiRA; NW		coincidence: uB+HiRA; uB+NW		uball mult.		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C		G. Master		
Csl Livetime	EF_OR		EB_OR		Csl_OR		
Any Downscalers	uBDS		HiRA_DS		NWDS		
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

He May have forgotten to unplug CsI pulser for tower 68

Scribe Name <u>Seun</u>		others					
Run # <u>4190</u>	Date <u>3/12/18</u>	Start <u>22:33</u>	Stop <u>23:02</u>				
Type <u>Data</u>	calib	RAMP	alpha	pulser	source	junk	
DAQ	Merged (15190)	other			Csi Live Time		
Beam: <u>48Ca</u>	Energy (MeV/u)		<u>140</u>	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	<u>124Sn(6.5)</u>	112Sn(6.1) CH2/CD2	
Trigger	Singles: <u>MB</u> ; HiRA; NW		coincidence: <u>uB+HiRA</u> ; uB+NW		uball mult.		
NW HV file	<u>Co60</u>	15 MeV	25 MeV	Thres. File <u>1 MeV</u>	2 MeV		
Shadow Bar	<u>A+B+C+D</u>	none	G238F-C	<u>280</u>	G. Master	<u>4190</u>	
Csi Livetime <u>0.55</u>	EF_OR	<u>97e</u>	EB_OR	<u>3000</u>	Csi_OR	<u>4300</u>	
Any Downscalers	uBDS	<u>301</u>	HiRA_DS	—	NWDS	—	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					<u>yes</u> /no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csi gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csi_OR Live Time
4191	23:03	23:37	360×10^{-12}	1987	0.55
4192	23:37	00:35	350×10^{-12}	1776	0.53

(long run)

Fixed the VW. VW working fine

VW Working fine Now

Scribe Name Om		others Zibi					
Run # 4193	Date		Start 4:46		Stop 5:21		
Type Data	calib	RAMP	alpha	pulser	source	junk	
DAQ	Merged (15190)		other		Csl Live Time		
Beam: 48Ca	Energy (MeV/u)		140	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1) CH2/CD2	
Trigger	Singles: MB; HiRA; NW		coincidence: uB+HiRA; uB+NW		uball mult.		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	500	G. Master	1825	
Csl Livetime 0.58	EF_OR		EB_OR		Csl_OR		
Any Downscalers	uBDS	301	HiRA_DS	0	NWDS	0	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					
This is JUNK is & beam stopped due to dead time Some @NW channels missing.							

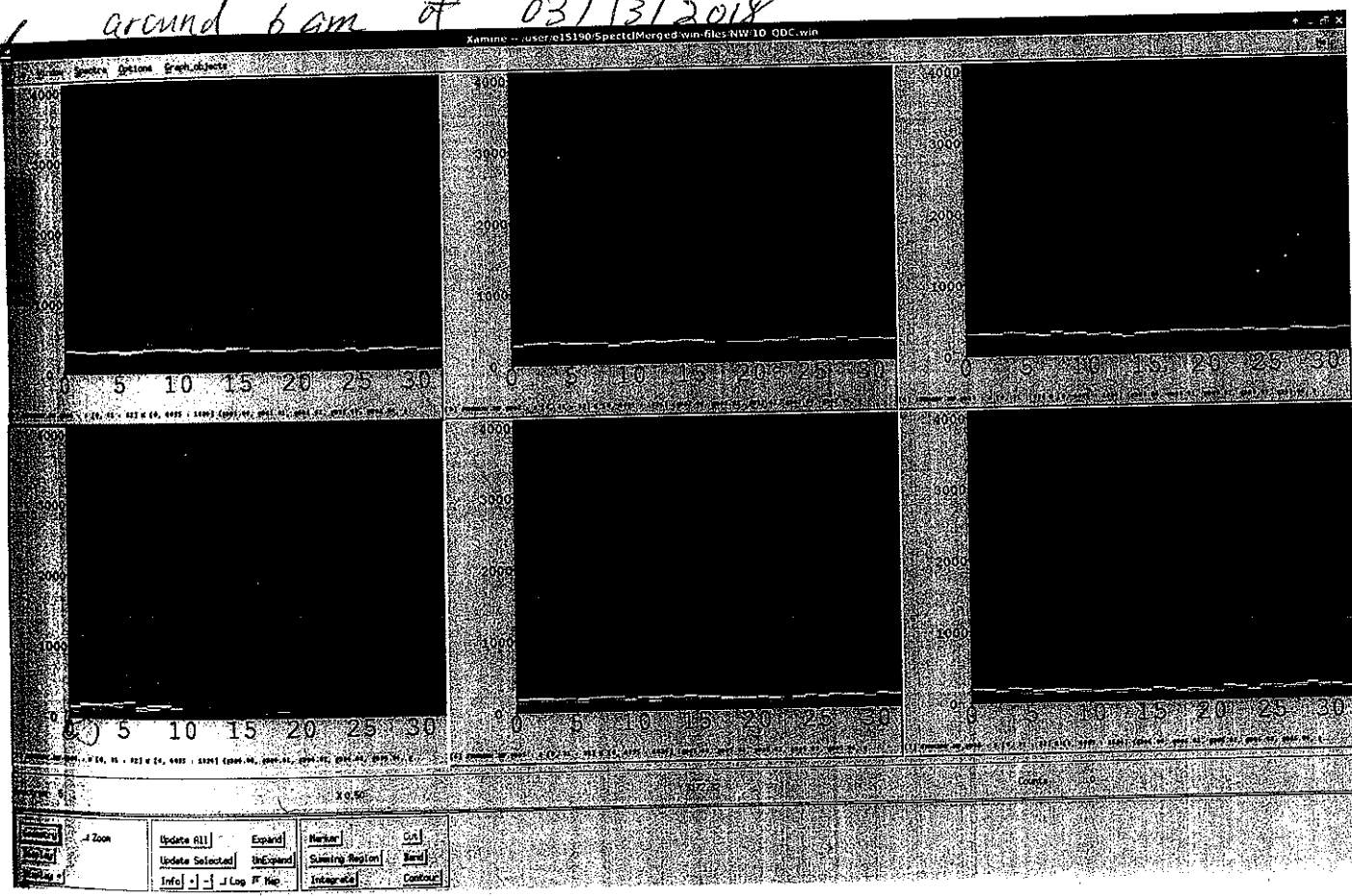
RUN 4194 Start 6:22 Stop 6:52
 'DATA' G238F-C → 700
 G. Master → ~~2240~~ 2240
 Csl Livetime → ~~0.52~~ 0.52

RUN 4195 Start 6:53 Stop 07:32
 'DATA' G238F-C → 660
 G. Master → 2150
 Live time → 0.53

@ 7:19 am
 NW problems:
 QDC4 : Ch 9 ~ Ch. 31
 NWTDC : Ch 16 ~ Ch. 31

@ 9:25 am
 50-Ω cable replaced for #0 fastgate QDC.
 pushed several connections of cables
 restarted the camac crate and reloaded everything
 NW is fixed.

around 6 am of 03/13/2018



Scribe Name		Kuan		others		Bill , Bill, Sean, Daniele	
Run #	4196	Date	03/13/2018	Start	10:21	Stop	
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)	other		Csl Live Time		0.56	
Beam:	48Ca	Energy (MeV/u)		140	56		
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB; HiRA; NW		coincidence: uB+HiRA, uB+NW		uball mult. 3		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	550	G. Master	1922	
Csl Livetime	0.56	EF_OR	0	EB_OR	0	Csl_OR	6200
Any Downscalers	uBDS	301	HiRA_DS	φ	NWDS	φ	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:	https://groups.nsl.msu.edu/hira/runlog/						

NW is fixed before this Run, HiRA ~~has~~ has not loaded chipboards right

Enter the vault and reloaded the chipboard

Scribe Name <i>Sean</i>		others <i>Kuan, Bill, Darrin</i>					
Run # <i>4147</i>	Date <i>03/13/2018</i>	Start <i>11:14</i>			Stop <i>11:41</i>		
Type <i>Data</i>	calib	RAMP	alpha	pulser	source	junk	
DAQ	Merged (<i>15190</i>)		other		Csl Live Time		
Beam: <i>48Ca</i>	Energy (MeV/u)		<i>140</i>	56			
Target	<i>viewer</i>	blank	58Ni(4.9)	64Ni(5.3)	<i>(24Sn(6.5))</i>	112Sn(6.1)	CH2/CD2
Trigger	Singles: <i>(MB; HiRA; NW)</i>		coincidence: EB+HiRA ; (B+NW)		uball mult. <i>3</i>		
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	<i>1 MeV</i>	2 MeV	
Shadow Bar	<i>A+B+C+D</i>	none	G238F-C	<i>500</i>	G. Master	<i>1700</i>	
Csl Livetime	EF_OR	<i>14000</i>	EB_OR	<i>5000</i>	Csl_OR	<i>5000</i>	
Any Downscalers	uBDS	<i>300</i>	HiRA_DS	<i><</i>	NWDS	<i>—</i>	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

D...

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
<i>4198</i>	<i>11:41</i>	<i>12:27</i>	<i>540</i>	<i>1800</i>	<i>0.55</i>
<i>4199</i>	<i>12:27</i>	<i>12:54</i>	<i>500</i>	<i>1700</i>	<i>0.57</i>
<i>4200</i>	<i>12:55</i>	<i>13:27</i>	<i>540</i>	<i>1800</i>	<i>0.53</i>
<i>4201</i>	<i>13:27</i>	<i>13:57</i>	<i>579</i>	<i>1820</i>	<i>53%</i>

Scribe Name <i>Damide</i>		others					
Run # <i>4202</i>	Date <i>03/13/2018</i>	Start <i>14:04</i>		Stop			
Type <i>Data</i>	calib	RAMP	alpha	pulser	source	junk	
DAQ <i>Merged (15190)</i>	other		Csl Live Time				
Beam: 48Ca	Energy (MeV/u) <i>140</i>	56					
Target viewer <i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2		
Trigger	Singles: <i>MB; HiRA; NW</i>	coincidence: <i>uB+HiRA; uB+NW</i>		uball mult. <i>3</i>			
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File <i>1 MeV</i>	2 MeV		
Shadow Bar <i>0</i>	<i>A+B+C+D</i>	none	G238F-C	<i>600</i>	G. Master	<i>100</i>	
Csl Livetime <i>0.94</i>	EF_OR	<i>600</i>	EB_OR	<i>500</i>	Csl_OR	<i>2500</i>	
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	—	NWDS	—	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name <i>Sean</i>		others <i>Damide</i>					
Run # <i>4203</i>	Date	Start <i>14:18</i>		Stop <i>14:47</i>			
Type <i>Data</i>	calib	RAMP	alpha	pulser	source	junk	
DAQ <i>Merged (15190)</i>	other		Csl Live Time <i>0.42</i>				
Beam: 48Ca	Energy (MeV/u) <i>140</i>	56					
Target viewer <i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	<i>112Sn(6.1)</i>	CH2/CD2		
Trigger	Singles: <i>MB; HiRA; NW</i>	coincidence: <i>uB+HiRA; uB+NW</i>		uball mult. <i>3</i>			
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File <i>1 MeV</i>	2 MeV		
Shadow Bar	<i>A+B+C+D</i>	none	G238F-C	<i>570</i>	G. Master	<i>2500</i>	
Csl Livetime	EF_OR	<i>12000</i>	EB_OR	<i>4700</i>	Csl_OR	<i>4500</i>	
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	—	NWDS	—	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4204	14:58	15:27	590	2600	0.41
4205	15:27	15:56	630	2600	0.38
4206	15:56	16:38	640	2700	0.38
4207	16:39	17:35	650	2700	0.37
4208	17:36	18:06	670	2800	0.35
4209	18:06	18:23	700	2850	0.35

← Don't know when it's stop
Readout crashed

Scribe Name Tommy		others Kyle, Om					
Run # 4210	Date 3/13	Start 18:42			Stop		
Type Data	calib	RAMP	alpha	pulser	source	junk	
DAQ Merged (15190)	other			Csl Live Time		0.93	
Beam: 48Ca	Energy (MeV/u)		140	56			
Target viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2	
Trigger Singles: MB, HiRA; NW	coincidence: uB+HiRA; uB+NW			uball mult. 3			
NW HV file	Co60	15 MeV	25 MeV	Thres. File 1 MeV	2 MeV		
Shadow Bar	A+B+C+D	none	G238F-C	699	G. Master	104	
Csl Livetime	EF_OR	689	EB_OR	460	Csl_OR	3775	
Any Downscalers	uBDS	301	HiRA_DS	NWDS			
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:	https://groups.nsl.msu.edu/hira/runlog/						

Scribe Name <i>Tommy</i>		others <i>Kyle, Om</i>					
Run # <i>4211</i>	Date <i>3/13</i>	Start <i>6:57 PM</i>	Stop <i>6:58 PM</i>				
Type Data	calib	RAMP	alpha	pulser	source	junk	
DAQ	Merged (15190)	other	Csl Live Time				
Beam: 48Ca	Energy (MeV/u) <i>140</i>		56				
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1) CH2/CD2	
Trigger	Singles MB; HiRA; NW	coincidence: uB+HiRA; uB+NW			uball mult.		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	G. Master			
Csl Livetime	EF_OR		EB_OR	Csl_OR			
Any Downscalers	uBDS		HiRA_DS	NWDS			
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name <i>Tommy</i>		others <i>Kyle, Om</i>					
Run # <i>4212</i>	Date <i>3/13</i>	Start <i>19:00</i>	Stop <i>19:29</i>				
Type Data	calib	RAMP	alpha	pulser	source	junk	
DAQ	Merged (15190)	other	Csl Live Time				
Beam: 48Ca	Energy (MeV/u) <i>140</i>		56				
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1) CH2/CD2	
Trigger	Singles MB; HiRA; NW	coincidence: uB+HiRA; uB+NW			uball mult. <i>3</i>		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	<i>700</i>	G. Master	<i>7700</i>	
Csl Livetime	EF_OR	<i>940</i>	EB_OR	<i>3780</i>	Csl_OR	<i>4764</i>	
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	NWDS			
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4213	19:30	20:05	200	2677	0.42
4214	20:06	20:37	683	2529	0.43
4215	20:38	21:07	650	2600	0.43
4216	21:08	21:37	670	2494	0.45
4217	21:38	21:57	635	2534	0.47
4218	22:07	22:37	160 → 590	1158 → 2250	0.69 → 0.48
Most of the time, the beam intensity is 590, but it is closer to 160 when we first started.					
4219	22:38	23:07	600	2212	0.48

← Run stopped due to beam drop

Scribe Name		Tommy		others		Kyle, Om, Zhi	
Run #	4220	Date	3/13	Start	23:18	Stop	23:24
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	Merged (15190)		other	Csl Live Time		0.94	
Beam: 48Ca	Energy (MeV/u)		140	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: MB; HiRA; NW		coincidence: uB+HiRA; uB+NW		uball mult. 2		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	530	G. Master	97.50	
Csl Livetime	EF_OR	664	EB_OR	430	Csl_OR	2519	
Any Downscalers	uBDS	301	HiRA_DS	—		NWDS —	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name <i>Tommy</i>		others <i>Kyle Om Zib;</i>					
Run # <i>4221</i>	Date <i>3/13</i>	Start <i>23:33</i>	Stop <i>23:34</i>				
Type Data	calib	RAMP	alpha	pulser	source	<i>(junk)</i>	
DAQ	<i>Merged (15190)</i>		other		Csl Live Time		
Beam: 48Ca	Energy (MeV/u) <i>140</i>		56				
Target	viewer	blank	58Ni(4.9)	<i>64Ni(5.3)</i>	124Sn(6.5)	112Sn(6.1) CH2/CD2	
Trigger	Singles: <i>(MB)</i> , HiRA; NW		coincidence: <i>uB+HiRA; uB+NW</i>		uball mult.		
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	<i>none</i>	G238F-C	G. Master			
Csl Livetime	EF_OR		EB_OR	Csl_OR			
Any Downscalers	uBDS		HiRA_DS	NWDS			
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name <i>Tommy</i>		others <i>Kyle Om Zib;</i>					
Run # <i>4222</i>	Date <i>3/13</i>	Start <i>23:35</i>	Stop <i>23:46</i>				
Type Data	calib	RAMP	alpha	pulser	source	<i>junk</i>	
DAQ	<i>Merged (15190)</i>		other		Csl Live Time <i>0.55</i>		
Beam: 48Ca	Energy (MeV/u) <i>140</i>		56				
Target	viewer	blank	58Ni(4.9)	<i>64Ni(5.3)</i>	124Sn(6.5)	112Sn(6.1) CH2/CD2	
Trigger	Singles: <i>(MB)</i> , HiRA; NW		coincidence: <i>uB+HiRA; uB+NW</i>		uball mult. <i>3</i>		
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	<i>1 MeV</i>	2 MeV	
Shadow Bar	A+B+C+D	<i>none</i>	G238F-C	<i>529</i>	G. Master	<i>1985</i>	
Csl Livetime	EF_OR	<i>0</i>	EB_OR	<i>0</i>	Csl_OR	<i>25577</i>	
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	<i>—</i>	NWDS <i>—</i>		
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name Tommy		others Kyle Om Zibi Kuan					
Run # 4223	Date 3/13	Start 23:53	Stop 23:55				
Type Data	calib	RAMP	alpha	pulser	source	junk	
DAQ Merged (15190)	other		Csl Live Time			50 0.91	
Beam: 48Ca	Energy (MeV/u) 140		56				
Target viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2	
Trigger	Singles: MB, HiRA; NW	coincidence: uB+HiRA; uB+NW			uball mult. 3		
NW HV file	Co60	15 MeV	25 MeV	Thres. File 1 MeV	2 MeV		
Shadow Bar	A+B+C+D	none	G238F-C	500	G. Master	9400	
Csl Livetime	EF_OR	9600	EB_OR	3800	Csl_OR	4583	
Any Downscalers	uBDS	301	HiRA_DS	NWDS			
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name Tommy		others Kyle Om Zibi Kuan					
Run # 4224	Date 3/13/14	Start 00:03	Stop 00:41				
Type Data	calib	RAMP	alpha	pulser	source	junk	
DAQ Merged (15190)	other		Csl Live Time			0.55	
Beam: 48Ca	Energy (MeV/u) 140		56				
Target viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2	
Trigger	Singles: MB, HiRA; NW	coincidence: uB+HiRA; uB+NW			uball mult. 3		
NW HV file	Co60	15 MeV	25 MeV	Thres. File 1 MeV	2 MeV		
Shadow Bar	A+B+C+D	none	G238F-C	520	G. Master	1800	
Csl Livetime	EF_OR	11488	EB_OR	4472	Csl_OR	5260	
Any Downscalers	uBDS	301	HiRA_DS	NWDS			
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4225	00:41	01:19	940	2654	0.43 0.43
4226	01:20	01:50	940	2615	0.42
4227	01:57	02:20	940	2667	0.42
4228	02:21	02:53	955	2706	0.41
4229	02:53	03:26	955	2684	0.41
4230	03:27	03:57	940	2700	0.42
4231	03:57	04:27	930	2650	0.41
4232	04:28	04:58	910	2655	0.42
4233	04:58	05:29	860	2600	0.43

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4234	05:29	06:00	870	2600	0.42
4235	06:01	06:32	865	2623	0.42
4236	06:32	07:02	828	2630	0.42
4237	07:03	07:33	860	2610	0.43
4238	07:33	08:03	850	2600	0.42
Operator took the key @ 08:03					
4239	09:11	09:42	800	2770	39%
4240	09:43	10:16	730	2700	41%
4241	10:16	10:33	730	2700	41%

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
Beam stopped for some of the issues @ 10:33					
4242	10:35	11:23	660	2600	42%
4243	11:24	11:57	710	2700	40%
4244	11:57	12:31	700	2700	40%
4245	12:31	13:02	680	2600	42%

Scribe Name <i>Danielle</i>		others					
Run # <i>4245</i>	Date <i>03/14/2018</i>	Start <i>13:09</i>	Stop <i>13:14</i>				
Type	Data	<i>calib</i>	RAMP	alpha	pulser	source	junk
DAQ	<i>Merged (15190)</i>		other		Csl Live Time	<i>93%</i>	
Beam: 48Ca	Energy (MeV/u)		<i>140</i>	56			
Target	viewer	<i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: <i>MB</i> ; HiRA; NW		coincidence: MB+HiRA <i>MB+NW</i>		uball mult. <i>3</i>		
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	<i>1 MeV</i>	2 MeV	
Shadow Bar	A+B+C+D	<i>none</i>	G238F-C	<i>700</i>	G. Master	<i>104</i>	
Csl Livetime	<i>93%</i>	EF_OR	<i>752</i>	EB_OR	<i>463</i>	Csl_OR	<i>4800</i>
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	<i>/</i>	NWDS	<i>/</i>	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name <i>Danielle</i>		others					
Run # <i>4247</i>	Date <i>03/14/2018</i>	Start <i>13:24</i>	Stop <i>14:0</i>				
Type	<i>Data</i>	calib	RAMP	alpha	pulser	source	junk
DAQ	<i>Merged (15190)</i>		other		Csl Live Time	<i>40%</i>	
Beam: 48Ca	Energy (MeV/u)		<i>140</i>	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	<i>112Sn(6.1)</i>	CH2/CD2
Trigger	Singles: <i>MB</i> ; HiRA; NW		coincidence: MB+HiRA <i>MB+NW</i>		uball mult. <i>3</i>		
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File	<i>1 MeV</i>	2 MeV	
Shadow Bar	A+B+C+D	<i>none</i>	G238F-C	<i>700</i>	G. Master	<i>2656</i>	
Csl Livetime	<i>40%</i>	EF_OR	<i>20900</i>	EB_OR	<i>9300</i>	Csl_OR	<i>8000</i>
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	<i>/</i>	NWDS	<i>/</i>	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4248	14:01	14:31	510 → 620	2180 → 2500	48% → 46%
4249	14:31	15:02	640	2517	39%
4250	15:03	15:31	623	2500	42%
4251	15:31	15:56	580	2500	0.43
4252	15:59	16:27	590	2500	0.42
4253	16:27	17:00	540	2400	0.44

Pool beam for check beam spot 5:00 PM

Scribe Name <i>Sean</i>		others <i>Don</i>	
Run # <i>4254</i>	Date	Start	
Type <i>Data</i>	<i>calib</i>	RAMP	alpha
DAQ <i>Merged (15190)</i>	other	Csl Live Time	
Beam: <i>48Ca</i>	Energy (MeV/u) <i>140</i>	56	
Target <i>viewer</i>	<i>blank</i>	58Ni(4.9)	64Ni(5.3)
Trigger <i>Singles: MB; HiRA; NW</i>	coincidence: <i>uB+NW</i>	124Sn(6.5)	112Sn(6.1)
NW HV file <i>Co60</i>	15 MeV	25 MeV	uball mult.
Shadow Bar <i>A+B+C+D</i>	<i>none</i>	G238F-C	Thres. File (MeV) <i>2 MeV</i>
Csl Livetime <i>0.43</i>	EF_OR <i>700</i>	EB_OR <i>45</i>	G. Master <i>101</i>
Any Downscalers <i>uBDS</i>	<i>301</i>	HiRA_DS <i>-</i>	Csl_OR <i>3600</i>
Check HiRA Voltage/current (once every shift)			NWDS <i>-</i>
Check coolant level (whenever the vault is open)			yes/no
Check summary spectra, PID spectra (once a shift)			yes/no
Check HV files, HiRA config, threshold and Csl gain files			Yes/no
Comments:	https://groups.nsl.msu.edu/hira/runlog/		

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Scribe Name <i>Sean</i>		others <i>Orin</i>					
Run # <i>4255</i>	Date <i>3/14/18</i>	Start <i>17:51</i>	Stop <i>18:20</i>				
Type <i>Data</i>	calib	RAMP	alpha	pulser	source	junk	
DAQ <i>Merged (15190)</i>	other			Csi Live Time			
Beam: 48Ca	Energy (MeV/u) <i>(140)</i>		56				
Target	viewer	blank	<i>58Ni(49)</i>	64Ni(5.3)	124Sn(6.5)	112Sn(6.1) CH2/CD2	
Trigger	Singles: <i>(MB)</i> ; HiRA; NW		coincidence: uB+HiRA; <i>(uB+NW)</i>		uball mult.		
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File <i>1 MeV</i>	2 MeV		
Shadow Bar	A+B+C+D	<i>none</i>	G238F-C	<i>560</i>	G. Master		
Csi Livetime <i>0.56</i>	EF_OR	<i>12000</i>	EB_OR	<i>8000</i>	Csi_OR		
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	—	NWDS		
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csi gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csi_OR Live Time
4256	18:20	18:51	800	2400	0.48
4257	18:52	19:22	780	2350	0.519
4258	19:22	19:55	700	2240	0.50
4259	19:55	20:24	750	2180	0.52
4260	20:24	20:53	760	2100	0.52
4261	20:53	21:14	750	2100	0.53
4262	21:15	21:36	400	1400	0.64
4263	21:37	21:58	200	900	0.75
4264	22:00	22:38	1000	2500	0.44

Reduced beam by 1/2

Runs 4261, 4262

for live time test, changing 20 min runs

4262: 400 pa

4263: 200 pa

4264: 1000 pa

Scribe Name <u>Sean</u>		others <u>Don, Zibi</u>					
Run # <u>4265</u>	Date <u>3/14/18</u>	Start <u>22:35</u>	Stop <u>22:40</u>				
Type	Data	<u>calib</u>	RAMP	alpha	pulser	source	junk
DAQ	<u>Merged (15190)</u>		other		Csl Live Time		
Beam: 48Ca	Energy (MeV/u)		<u>140</u>	56			
Target	viewer	<u>blank</u>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: <u>MB</u> ; HiRA; NW		coincidence: uB+HiRA; <u>uB+NW</u>			uball mult. <u>3</u>	
NW HV file	<u>060</u>	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	<u>none</u>	G238F-C	<u>1100</u>	G. Master 106		
Csl Livetime	EF_OR	<u>730</u>	EB_OR	<u>490</u>	Csl_OR	<u>5400</u>	
Any Downscalers	uBDS	<u>301</u>	HiRA_DS	NWDS		-	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name <u>Sean</u>		others <u>Don, Zibi</u>					
Run # <u>4266</u>	Date <u>3/14/18</u>	Start <u>22:58</u>	Stop <u>23:17</u>				
Type	Data	calib	RAMP	alpha	pulser	source	junk
DAQ	<u>Merged (15190)</u>		other		Csl Live Time		
Beam: 48Ca	Energy (MeV/u)		<u>140</u>	56			
Target	viewer	blank	58Ni(4.9)	64Ni(5.3)	<u>124Sn(6.5)</u>	112Sn(6.1)	CH2/CD2
Trigger	Singles: <u>MB</u> ; HiRA; NW		coincidence: uB+HiRA; <u>uB+NW</u>			uball mult. <u>3</u>	
NW HV file	<u>060</u>	15 MeV	25 MeV	Thres. File	<u>1 MeV</u>	2 MeV	
Shadow Bar	A+B+C+D	<u>none</u>	G238F-C	<u>11na</u>	G. Master <u>2900</u>		
Csl Livetime <u>0,36</u>	EF_OR	<u>16000</u>	EB_OR	<u>6300</u>	Csl_OR	5775 <u>825</u>	
Any Downscalers	uBDS	<u>301</u>	HiRA_DS	NWDS		-	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and Csl gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4267	23:18	23:48	11na	2870	0.37
4268	23:48	00:17	11na	2880	0.37
4269	00:17	00:49	1060 nepA	2887	0.37
4270	00:49	01:19	960 nepA	2712	0.38
4271	01:20	02:11	1100 nepA	2878	0.37
4272	02:11	02:41	920 nepA	2600	0.39
4273	02:42	03:12	980 nepA	2636	0.41
4274	03:12	03:43	870 nepA	2600	0.45
4275	03:43	04:13	1020 nepA	2755	0.39

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4276	04:14	04:37	870 nepA	2567	0.42
4277	04:48	05:27	880 nepA	2658	0.41
4278	05:27	06:01	810 nepA	2377	0.41
4279	06:02	06:34	815 nepA	2441	0.46
4280	06:34	07:06	810 nepA	2463	0.48
4281	07:06	07:36	900 nepA	2500	0.42
4282	07:36	08:08	800 nepA	2289	0.48
4283	08:08	08:39	900 epA	2570	44%
4284	08:39	09:16	780 epA	2409	47%

← Operator took the key to check beam stability

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4285	09:17	09:56	1000 epA	2740	40%
4286	09:57	10:26	1000 epA	2660	42%
4287	11:08	11:39	900 epA	2960	34%
4288	11:40	12:10	750 epA	2920	37%
4289	12:10	12:45	700 epA	2700	40%
4290	12:45	13:20	700 epA	2700	40%
4291	13:20	13:52	650 epA	2700	40%
4292	13:52	14:22	630 epA	2580	42%
4293	14:22	14:53	710 epA	2700	40%

(Initially low beam intensity)

10:26 Beam intensity was fluctuating around 10% and it was not good to make a beam intensity test, so B. Tsang went to ask the operators to get a better tuning of the beam.

11:08 Operators have the beam ready, we'll start to take data, the beam intensity starts around 860 epA and they are trying to bring it up to ~ 1000 epA.

Beam stability isn't great. We are going to wait to the next shift of operators to do the beam-intensity test.

11:39 Dead time was getting big with a beam intensity of ~ 1000 epA. We asked operators to lower it down.

11:40 Now more stable to ~ 750 epA.

→ Intensity check was made yesterday

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4294	14:54	15:25	620	2660	0.42
4295	15:25	15:56	670	2650	43%
4296	15:56	16:27	650	2400	43%
4297	16:27	16:57	650	2500	0.42
4298	16:57	17:27	620	2550	0.43
4299	17:27	17:56	580	2350	0.43
4300	17:57	18:27	540	2360	0.46

Scribe Name <i>Tommy</i>		others <i>Om</i>					
Run # <i>4301</i>	Date <i>3/15/2018</i>	Start <i>18:37</i>	Stop <i>18:42</i>				
Type <i>Data</i>	calib	RAMP	alpha	pulser	source	junk	
DAQ <i>Merged (15190)</i>	other		Csl Live Time			<i>0.94</i>	
Beam: 48Ca	Energy (MeV/u) <i>140</i>		56				
Target viewer	<i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2	
Trigger	Singles: <i>MB</i> HiRA; NW	coincidence: uB+HiRA; <i>uB+NW</i>			uball mult. <i>3</i>		
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File <i>1 MeV</i>	2 MeV		
Shadow Bar	A+B+C+D <i>none</i>	G238F-C	<i>600</i>	G. Master	<i>95</i>		
Csl Livetime	EF_OR	<i>765</i>	EB_OR	<i>491</i>	Csl_OR	<i>4097</i>	
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	NWDS			
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name <i>Tommy</i>		others <i>Om</i>					
Run # <i>4302</i>	Date <i>3/15/2018</i>	Start <i>18:52</i>	Stop <i>19:22</i>				
Type <i>Data</i>	calib	RAMP	alpha	pulser	source	junk	
DAQ <i>Merged (15190)</i>	other		Csl Live Time			<i>0.44</i>	
Beam: 48Ca	Energy (MeV/u) <i>140</i>		56				
Target viewer	<i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	<i>112Sn(6.1)</i>	CH2/CD2	
Trigger	Singles: <i>MB</i> HiRA; NW	coincidence: uB+HiRA; <i>uB+NW</i>			uball mult. <i>3</i>		
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File <i>1 MeV</i>	2 MeV		
Shadow Bar	A+B+C+D <i>none</i>	G238F-C	<i>575</i>	G. Master	<i>2342</i>		
Csl Livetime	EF_OR	<i>19726</i>	EB_OR	<i>8072</i>	Csl_OR	<i>7227</i>	
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	NWDS			
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4303	19:22	19:53	600	2365	0.46
4304	19:54	20:24	570	2300	0.47
4305	20:24	20:54	310	1600	0.56
4306	20:55	21:26	502	2076	0.50

Scribe Name <i>Tommy</i>		others <i>Om</i>		Run # <i>4302</i>		Date 15 <i>3/15</i>	Start <i>21:36</i>	Stop <i>21:41</i>
Type	Data <i>calib</i>	RAMP	alpha	pulser	source	junk		
DAQ	Merged <i>(15190)</i>	other			Csl Live Time			<i>0.93</i>
Beam: 48Ca	Energy (MeV/u)	<i>140</i>	56					
Target	viewer <i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2		
Trigger	Singles: <i>MB</i> , HiRA; NW	coincidence: uB+HiRA; <i>uB+NW</i>			uball mult.	<i>3</i>		
NW HV file	<i>Co60</i>	15 MeV	25 MeV	Thres. File <i>1 MeV</i>	2 MeV			
Shadow Bar	A+B+C+D <i>none</i>		G238F-C	<i>550</i>	G. Master	<i>90</i>		
Csl Livetime	EF_OR	<i>760</i>	EB_OR	<i>457</i>	Csl_OR	<i>3240</i>		
Any Downscalers	uBDS	<i>301</i>	HiRA_DS		NWDS			
Check HiRA Voltage/current (once every shift)						yes/no		
Check coolant level (whenever the vault is open)						yes/no		
Check summary spectra, PID spectra (once a shift)						Yes/no		
Check HV files, HiRA config, threshold and Csl gain files						Yes/no		
Comments:	https://groups.nsl.msu.edu/hira/runlog/							

Scribe Name <i>Tommy</i>		others <i>Om</i>					
Run # <i>4309</i>	Date <i>3/15/2018</i>	Start <i>21:51</i>		Stop <i>22:20</i>			
Type <i>Data</i>	calib	RAMP	alpha	pulser	source	junk	
DAQ <i>Merged (15190)</i>	other		Csl Live Time		<i>0.40</i>		
Beam: <i>48Ca</i>	Energy (MeV/u) <i>140</i>		56				
Target	viewer	blank	<i>58Ni(4.9)</i>	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: <i>(MB)</i> HiRA; NW		coincidence: uB+HiRA; <i>UB+NW</i>		uball mult. <i>3</i>		
NW HV file	Co60	15 MeV	25 MeV	Thres. File	1 MeV	2 MeV	
Shadow Bar	A+B+C+D	none	G238F-C	<i>60¹¹⁵⁰</i>	G. Master	<i>2846</i>	
Csl Livetime	EF_OR	<i>16460</i>	EB_OR	<i>6692</i>	Csl_OR	<i>8452</i>	
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	—	NWDS	—	
Check HiRA Voltage/current (once every shift)					yes/no		
Check coolant level (whenever the vault is open)					yes/no		
Check summary spectra, PID spectra (once a shift)					Yes/no		
Check HV files, HiRA config, threshold and Csl gain files					Yes/no		
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
<i>4309</i>	<i>22:20</i>	<i>22:51</i>	<i>1200</i>	<i>2831</i>	<i>0.38</i>
<i>4310</i>	<i>22:51</i>	<i>23:21</i>	<i>1120</i>	<i>2658</i>	<i>0.43</i>
<i>4311</i>	<i>23:21</i>	<i>23:51</i>	<i>1180</i>	<i>2774</i>	<i>0.42</i>
<i>4312</i>	<i>23:52</i>	<i>00:24</i>	<i>1.2 na</i>	<i>2800</i>	<i>0.40</i>
<i>4313</i>	<i>00:24</i>	<i>00:58</i>	<i>1.7 na</i>	<i>2700</i>	<i>0.42</i>

Scribe Name <i>Sean</i>		others					
Run # <i>4314</i>	Date <i>3/16/18</i>	Start <i>1:06</i>	Stop <i>1:11</i>				
Type	Data	<i>calib</i>	RAMP	alpha	pulser	source	junk
DAQ	<i>Merged (15190)</i>		other		CsI Live Time	<i>0.93</i>	
Beam: 48Ca	Energy (MeV/u)		<i>(140)</i>	56			
Target	viewer	<i>blank</i>	58Ni(4.9)	64Ni(5.3)	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: <i>(MB)</i> ; HiRA; NW		coincidence: uB+HiRA; <i>(uB+NW)</i>		uball mult. <i>3</i>		
NW HV file	<i>(Co60)</i>	15 MeV	25 MeV	Thres. File <i>(1 MeV)</i>	2 MeV		
Shadow Bar	A+B+C+D	<i>none</i>	G238F-C	<i>1.00 uA</i>	G. Master	<i>93</i>	
CsI Livetime	EF_OR	<i>740</i>	EB_OR	<i>490</i>	CsI_OR	<i>5400</i>	
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	—	NWDS	—	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						yes/no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and CsI gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Scribe Name <i>Sean</i>		others					
Run # <i>4315</i>	Date	Start <i>1:19</i>	Stop <i>1:46</i>				
Type	<i>Data</i>	calib	RAMP	alpha	pulser	source	junk
DAQ	<i>Merged (15190)</i>		other		CsI Live Time	<i>0.34</i>	
Beam: 48Ca	Energy (MeV/u)		<i>140</i>	56			
Target	viewer	blank	58Ni(4.9)	<i>(64Ni(5.3))</i>	124Sn(6.5)	112Sn(6.1)	CH2/CD2
Trigger	Singles: <i>(MB)</i> ; HiRA; NW		coincidence: uB+HiRA; <i>(uB+NW)</i>		uball mult. <i>3d</i>		
NW HV file	<i>(Co60)</i>	15 MeV	25 MeV	Thres. File <i>(1 MeV)</i>	2 MeV		
Shadow Bar	A+B+C+D	<i>none</i>	G238F-C	<i>1.6 uA</i>	G. Master	<i>3000</i>	
CsI Livetime	EF_OR	<i>17500</i>	EB_OR	<i>8000</i>	CsI_OR	<i>9600</i>	
Any Downscalers	uBDS	<i>301</i>	HiRA_DS	—	NWDS	—	
Check HiRA Voltage/current (once every shift)						yes/no	
Check coolant level (whenever the vault is open)						<i>(yes)</i> /no	
Check summary spectra, PID spectra (once a shift)						Yes/no	
Check HV files, HiRA config, threshold and CsI gain files						Yes/no	
Comments:		https://groups.nsl.msu.edu/hira/runlog/					

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4316	1:46	2:17	1.07 na	2900	0.36
4317	2:17	2:46	1.0 na	2800	0.38
4318	2:47	3:16	1.0 na	2800	0.38
4319	3:16	3:53	1.08 na	2850	0.38
4320	3:53	4:23	1.14 na	2970	0.35
4321	4:24	4:59	1.2 na	3080	0.33
4322	4:59	5:29	1.25 1.1 na	2850	0.36
4323	5:29	5:59	1.14 na	3000	0.35
4324	5:59	6:30	1.0 na	2800	0.38

Rates from DeadTime scaler page					
Run #	Start	Stop	G238F-C	Master_Trig	Csl_OR Live Time
4325	6:30	7:00	1.04 na	2840	0.36
4326	7:00	7:27	1.1 na	2900	0.37
4327	7:27	8:04	0.9 na	2660	0.4

140 MeV/A ⁴⁸Ca beam stopped at 8:04 AM

3/16/88

Alpha source with SPPB foil

Run 4328: Start: 10:12