

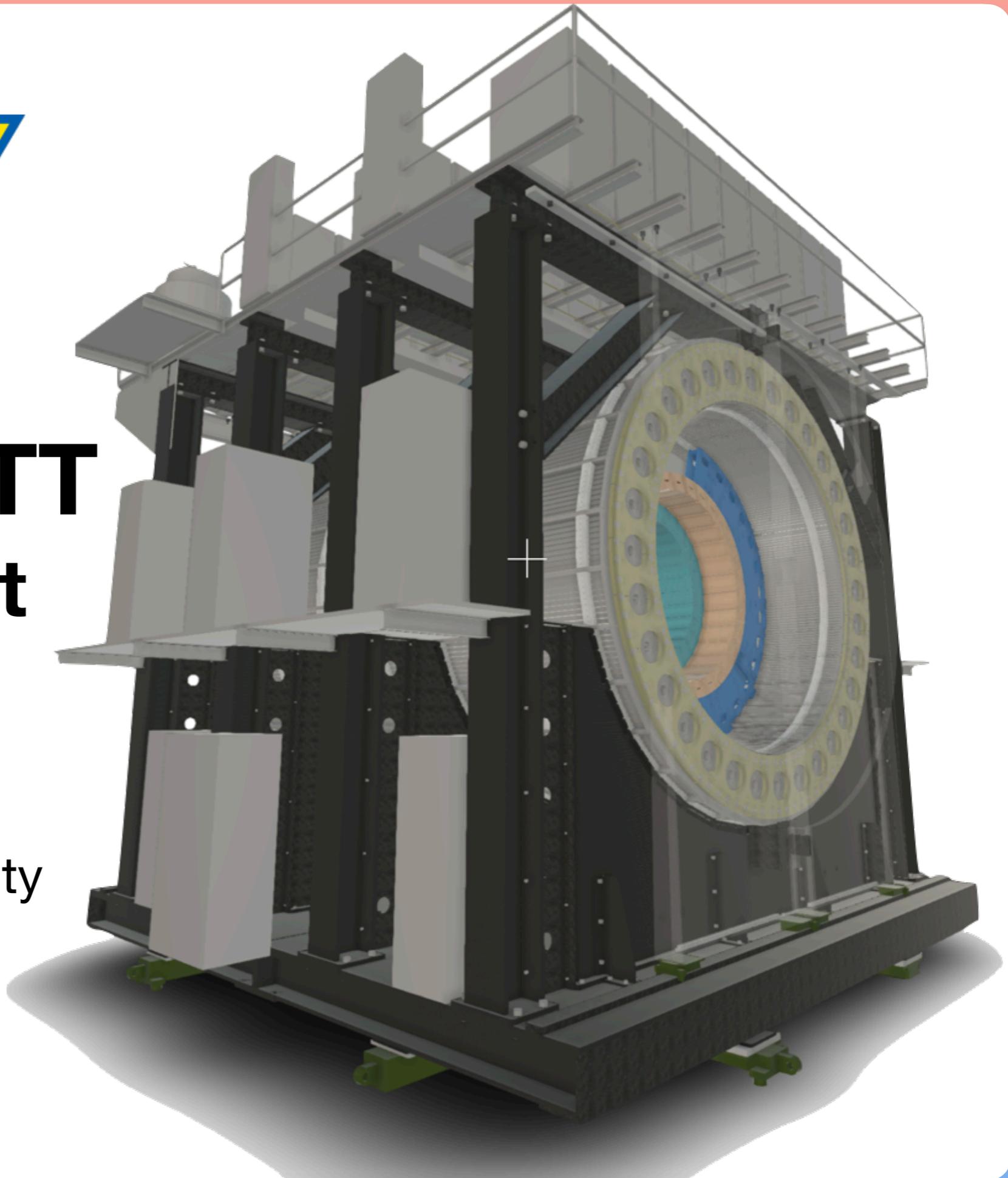


SPHENIX INTT - Weekly Report

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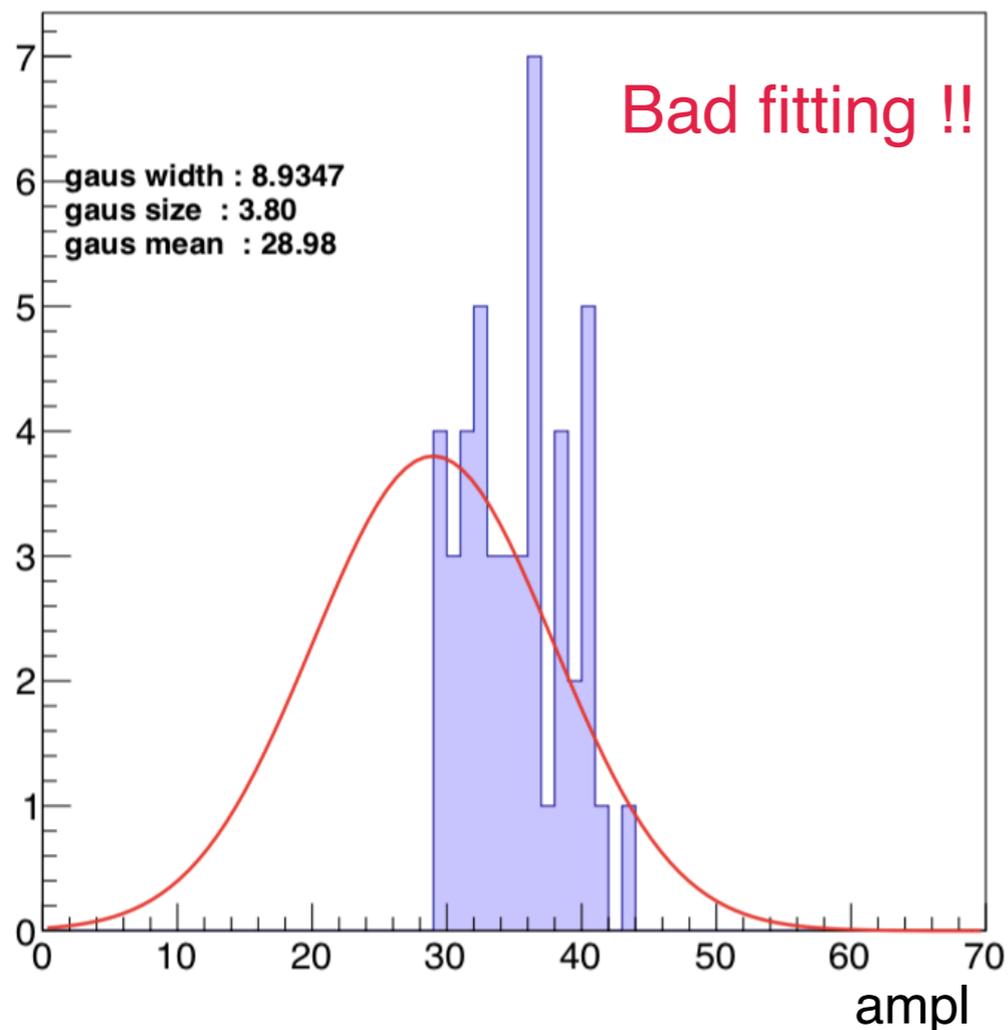


Problem about adc0 criteria

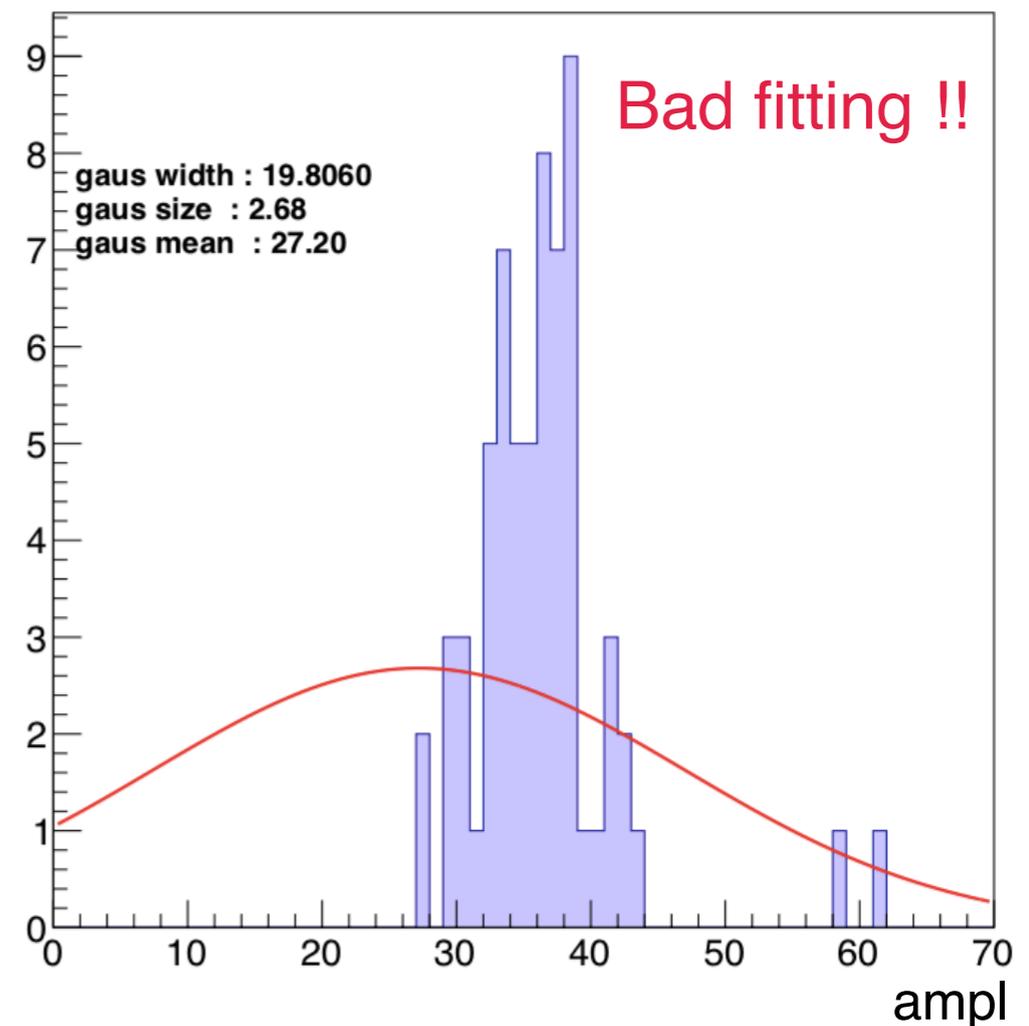


- The statistic of adc0 distribution of some channels may not be enough.

chip_id=18, chan_id = 27, ADC0



chip_id=13, chan_id = 93, ADC0



Proposal : not to use this criteria. Threshold study -> error function only

Ladder assembly



We have assembled 12 ladders in Taiwan so far.
Goal : 4 more ladders before 9/15

Stave ID	Module		assembly date	Bias glue (Y/N)	calibration		
	N	S			done ?	# bad channel	class
"01-0015"	74	262	2021/4/15	Y	Y	2463	5
"01-0060"	51	264	2021/04/28	Y	Y	144	3
"02-0028"	44	pre004	2021/07/28	Y	Y	45	2
"02-0049"	263	48	2021/7/29	Y	Y	0	1
"02-0052"	254	49	2021/8/3	Y	Y	0	1
"02-0046"	255	257	2021/8/5	Y	Y	1	1
"02-0039"	77	78	2021/8/23	Y	Y	2	1
"02-0040"	73	71	2021/8/26	Y	Y	6	1
"02-0019"	53	54	2021/8/27	Y	Y	0	1
"02-0016"	52	55	2021/8/31	Y	Y	3	1
"02-0013"	58	59	2021/09/01	Y	Y	0	1
"02-0001"	253	256	2021/09/02	Y	Y	0	1

Class definition (same as BNL)

classification	bad channels	range	%
1			33.28 <0.5%
2	33.28		133.12 0.5% ~ 2 %
3	133.12		266.24 2 % ~ 4%
4	266.24		399.36 4% ~ 6 %
5	399.36		>6%

- 8 criteria are being used now.
 - ~~offset width~~ -> double counting
 - ~~mean adc 0~~ -> low statistic

Cut range

Based on 10 TW ladders (66560 channels)

```

////////////////////////////////////
//////////////////////////////////// cut finding result //////////////////////////////////////
//////////////////////////////////// 5-sigma cut //////////////////////////////////////
////////////////////////////////////
1. offsetted width : 2.29934 to 4.03547
2. entry : 259.531 to 376.195
3. entry ampl cut : 170 to 200 (P.S.
4. mean adc 0 : 29.9558 to 41.2994
5. threshold position : 26.3283 to 38.5307
6. width rchi2 p-value: 5-sigma -> 0.0000006
7. slope rchi2 p-value: 5-sigma -> 0.0000006
8. slope value correct: 5.43298 to 8.45607
9. offsetted width 02 : 1.83801 to 4.25881
10.offsetted width 13 : 2.04854 to 4.60852
11. un-bonded study
    
```

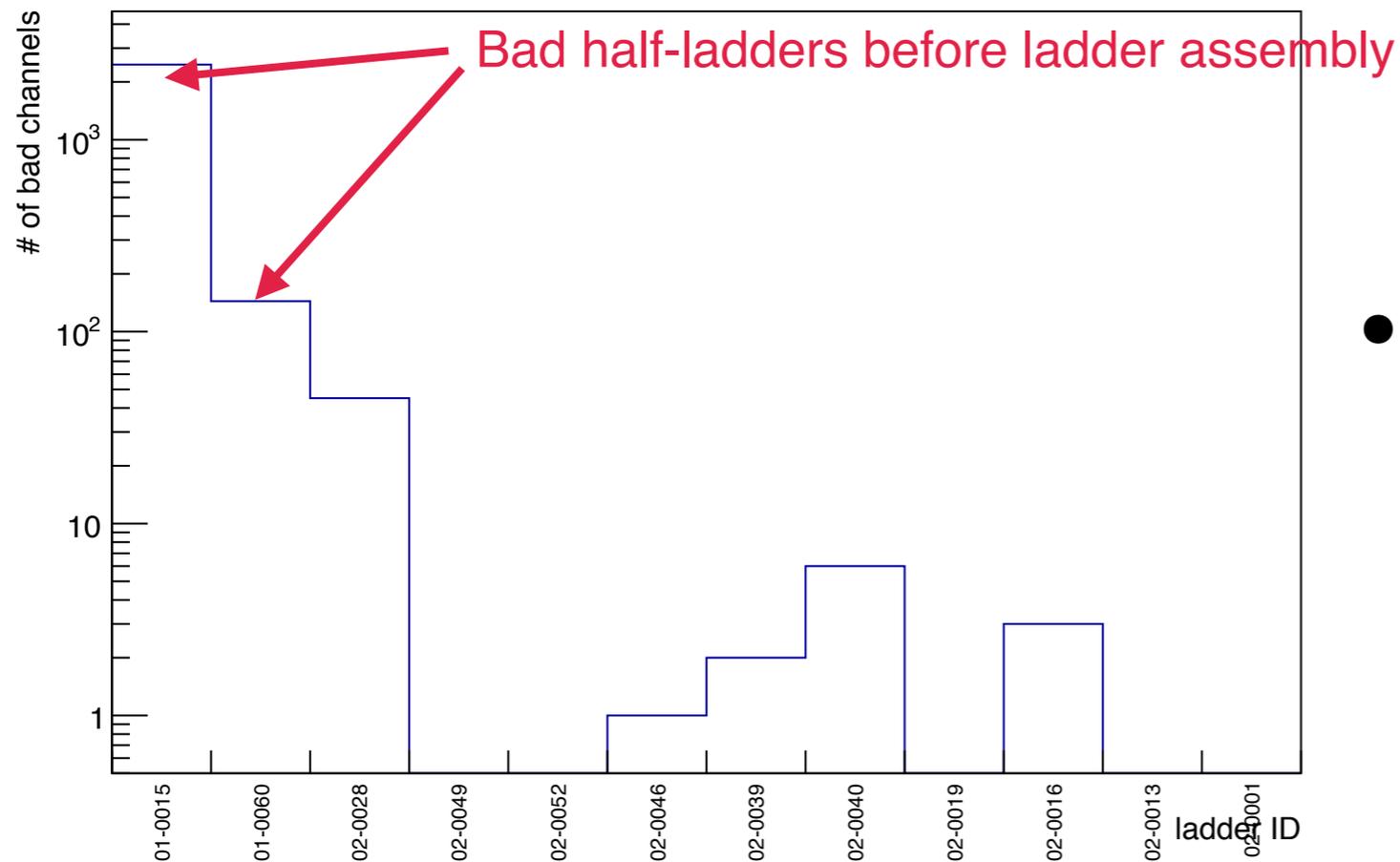
Not use

Ladder assembly



We have assembled 12 ladders in Taiwan so far.
Goal : 4 more ladders before 9/15

ladder bad channel summary



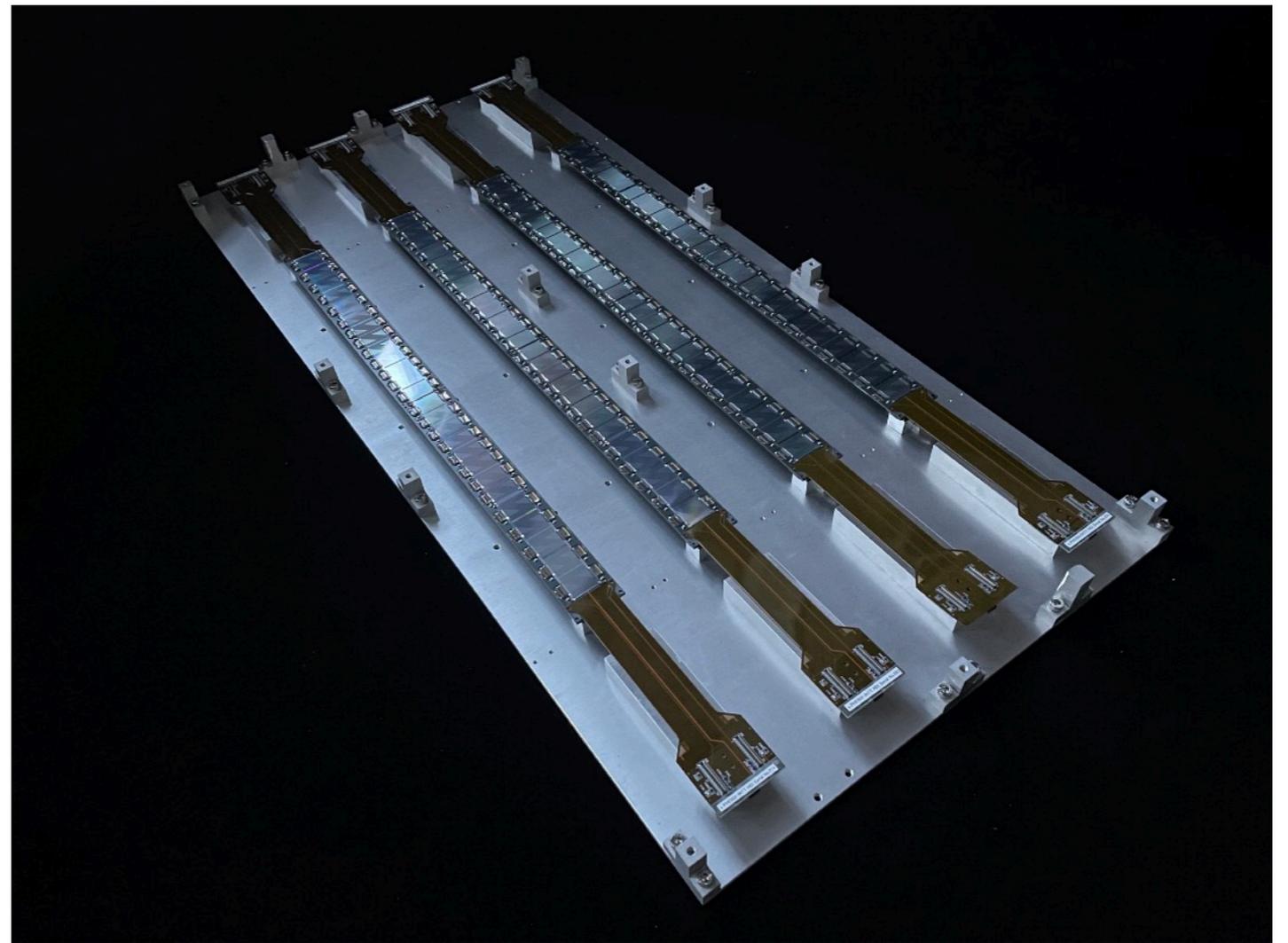
- Summary (based on 8 criteria) :
 - Class 1 : 9 ladders
 - Class 2 : 1 ladder
 - Class 3 : 1 ladder
 - Class 5 : 1 ladder

Class definition (same as BNL)

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1		33.28 <0.5%
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4	266.24	399.36 4% ~ 6 %
5	399.36	>6%

Ladder assembly

We have assembled 12 ladders in Taiwan so far.
Goal : 4 more ladders before 9/15



Summary



- The statistic of adc0 distribution may not be enough.
 - Proposal : not to use this criterion.
- We have assembled 12 ladders in Taiwan so far.
 - Based on 8 criteria, 9 ladders are in Class 1.
 - Goal : assemble 4 more ladders before 9/15.
- We haven't started the ladder source test, we are waiting for the arrival of one power supply.
- We will ship one ladder to NWU once the LTB are arrived.

Back up



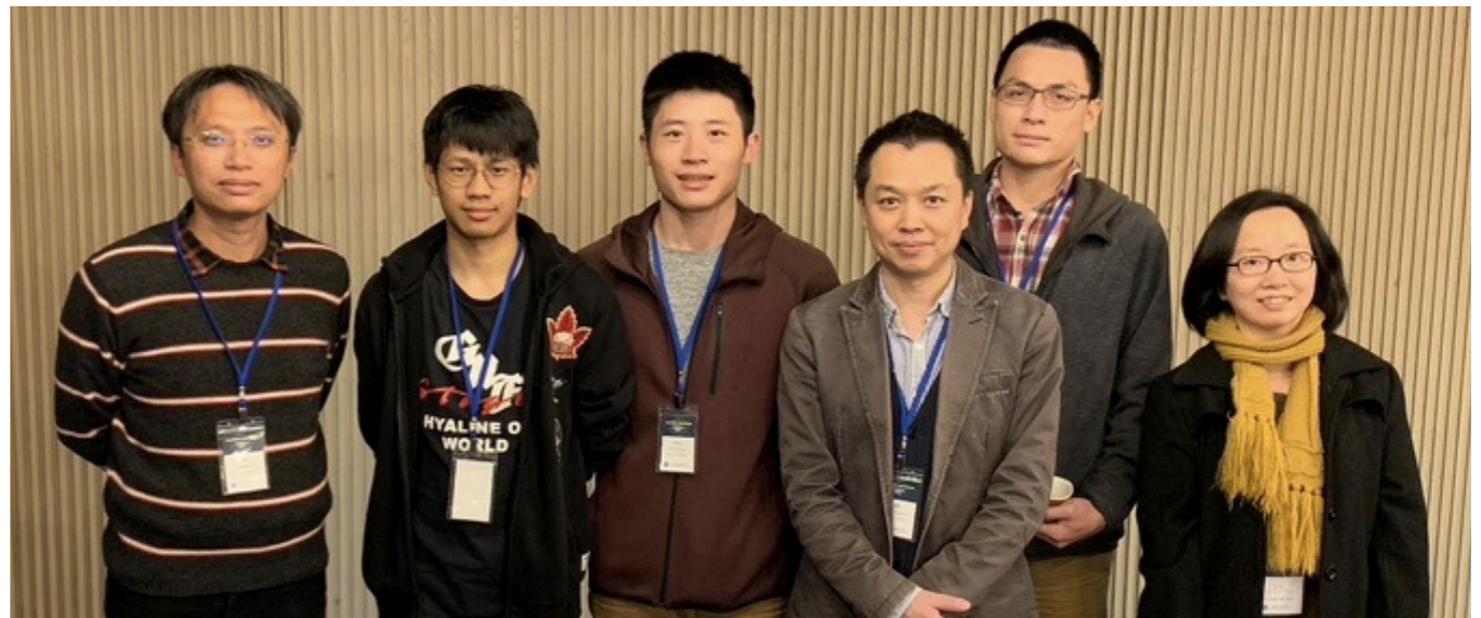
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