

TB2020 – SRS noise analysis

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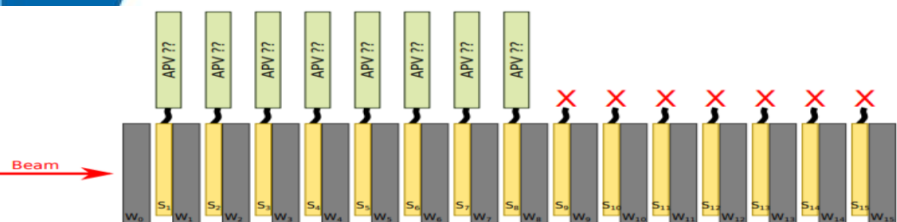
**Institute of Space Science*

Experimental set-up

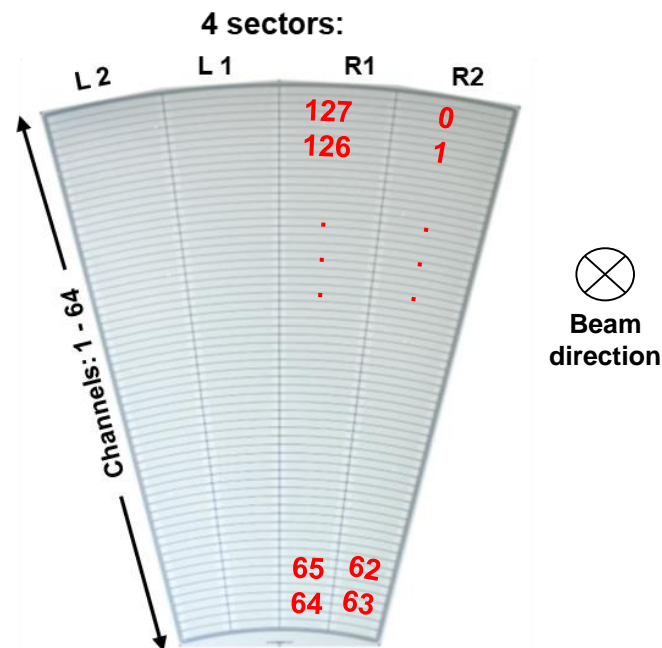
- ❑ Test beam at DESY with 1 – 6 GeV electron beam
- ❑ ALPIDE telescope – 2 arms, 1st arm consists of 2 layers and 2nd arm consists of 3 layers;
- ❑ **Lumical** calorimeter consists of 15 Si sensors with one absorber layer placed in front of each active sensor layer;



Available for 1st and 2nd energy scan, calorimeter edge and LUXE experiment?!



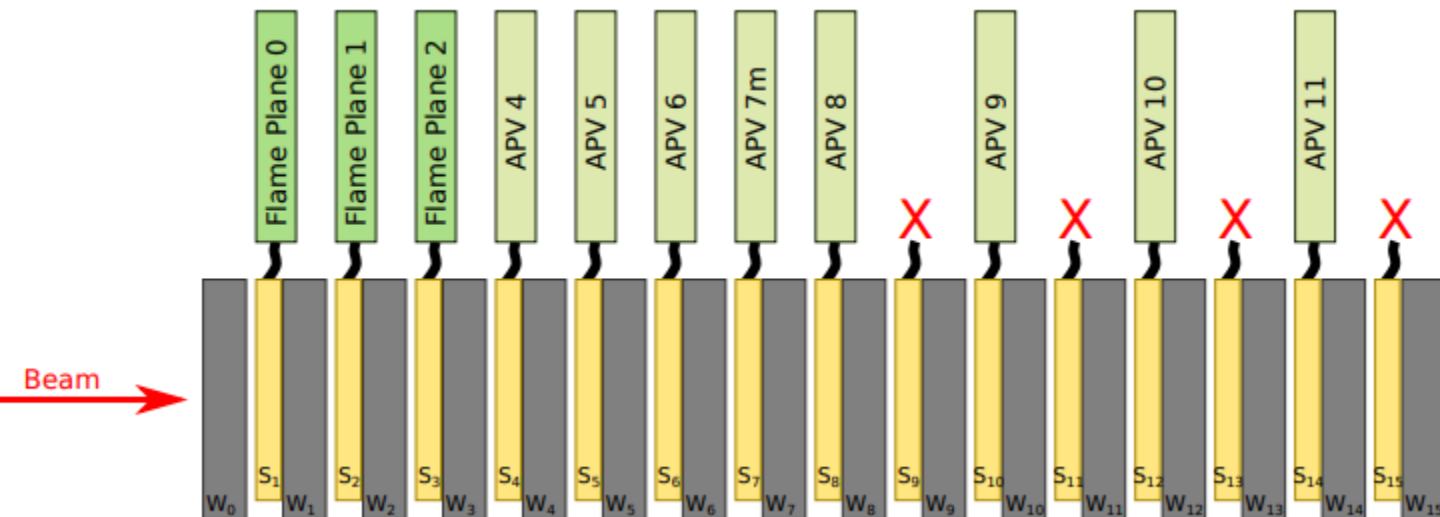
Available for tilted LumiCal calorimeter?!



Sensor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Configuration A	B0	B1	B2													
Configuration B				B0	B1	B2										
Configuration C							B0	B1	B2							
Configuration D										B0	B1	B2				
Configuration E													B0	B1	B2	
Configuration F								B0								

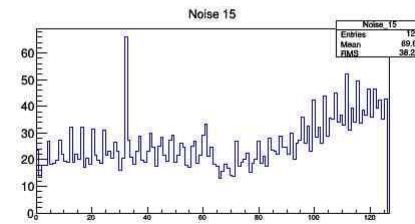
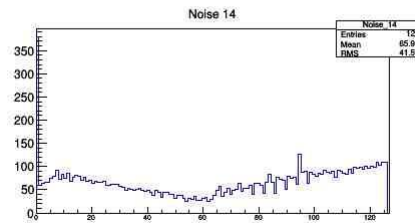
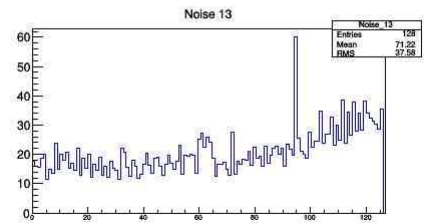
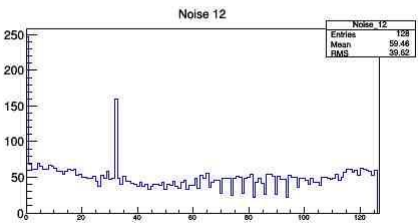
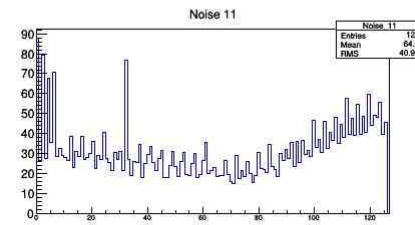
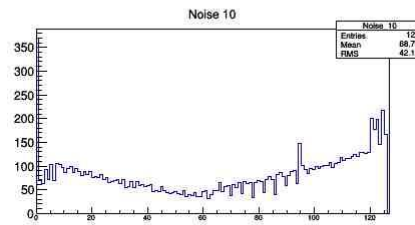
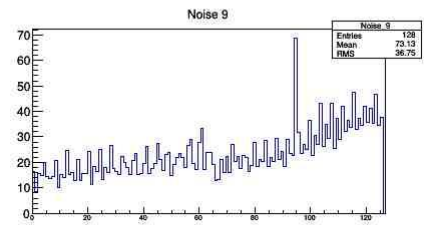
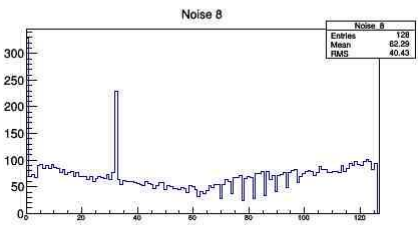
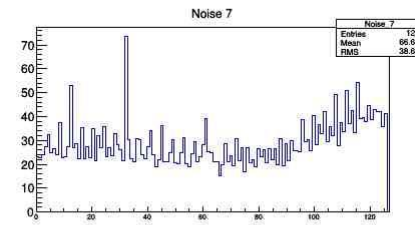
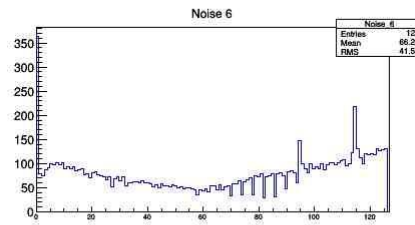
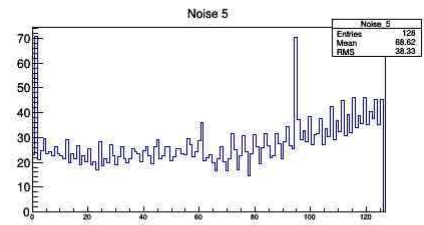
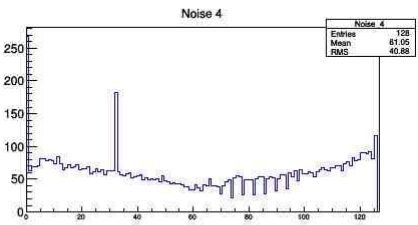
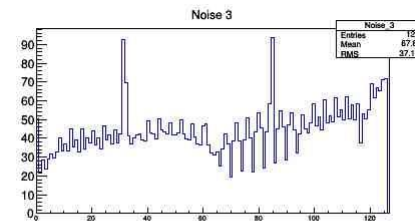
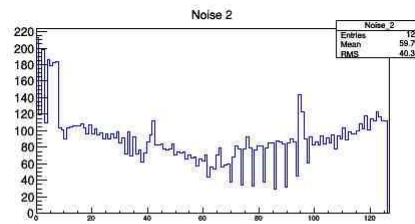
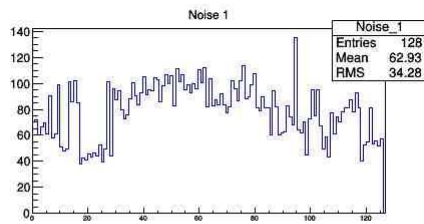
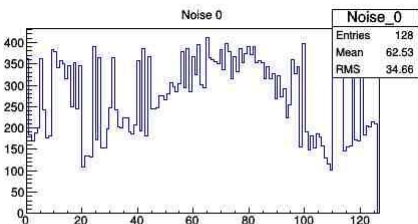
Experimental set-up

Energy scan - 1 to 5 GeV

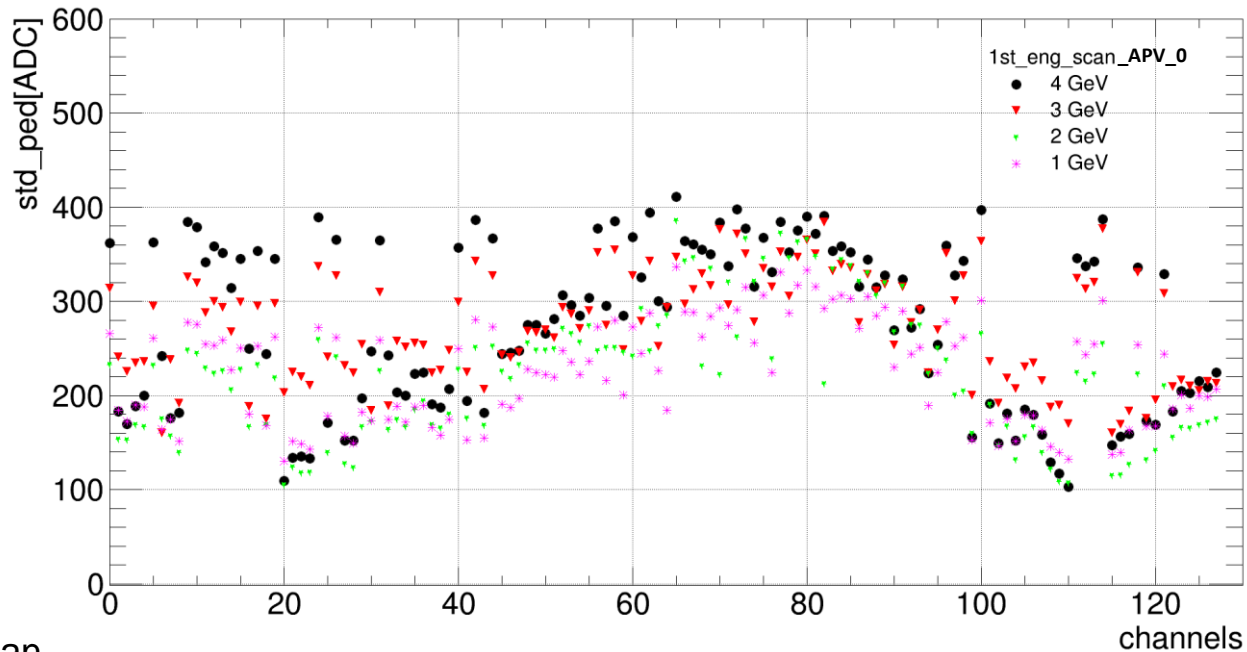


Run no.	Energy (GeV)
18	4
24	3
35	2
45	1

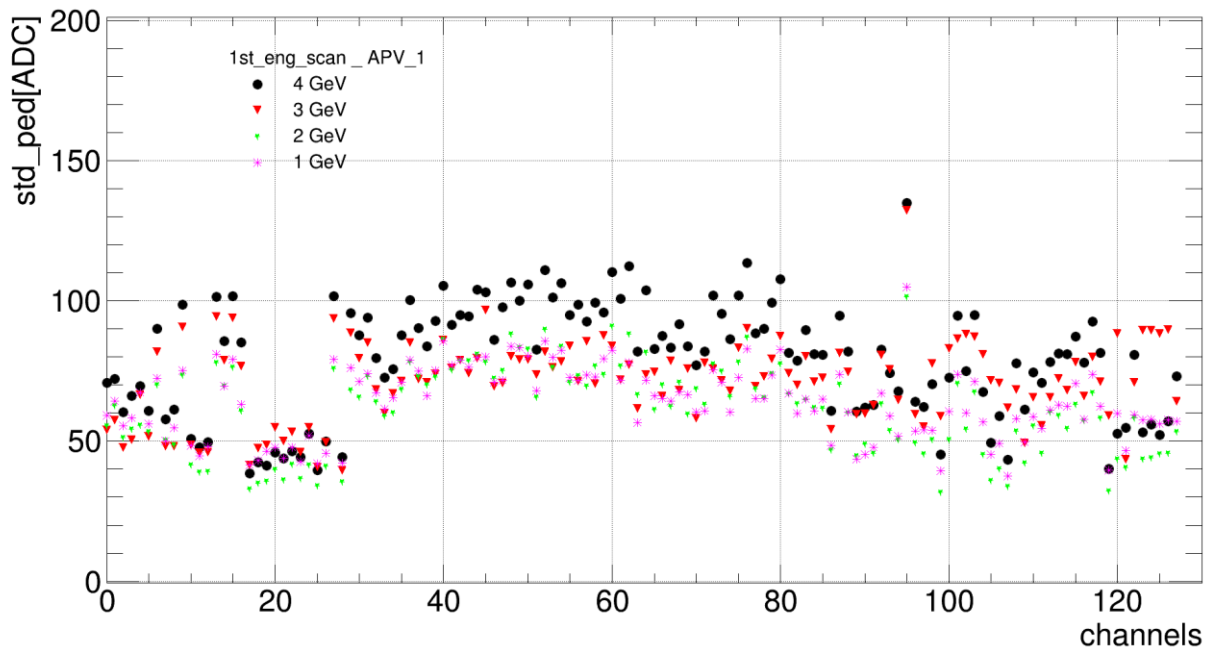
- APVs noise – run 18 – energy scan, 4 GeV



Noise distribution for all channels



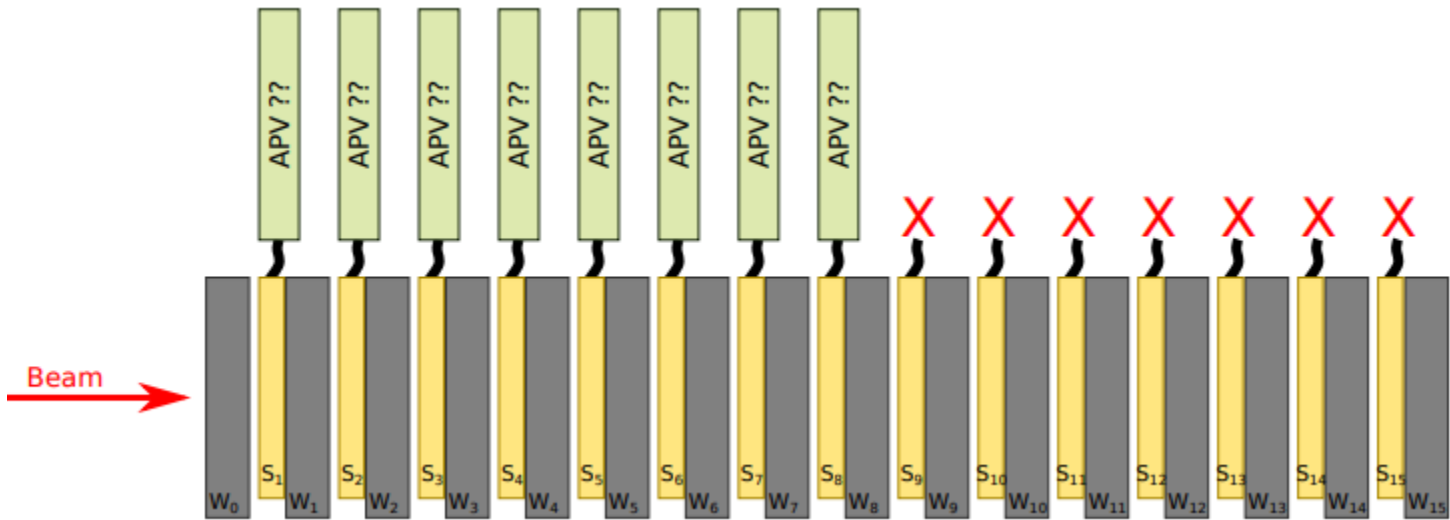
- Run 18, 24, 35, 45 – energy scan



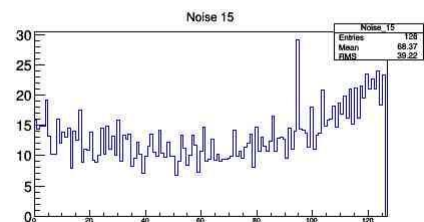
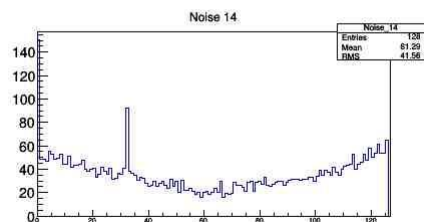
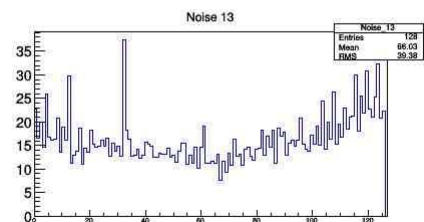
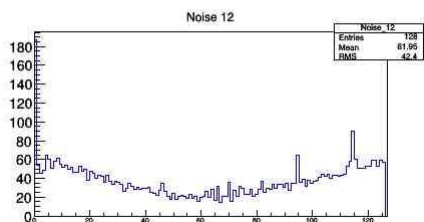
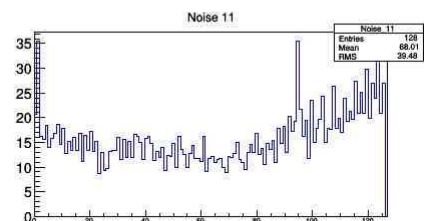
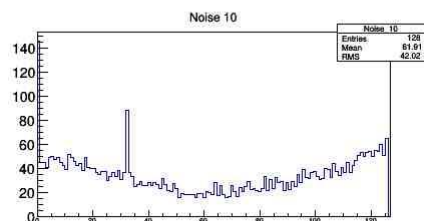
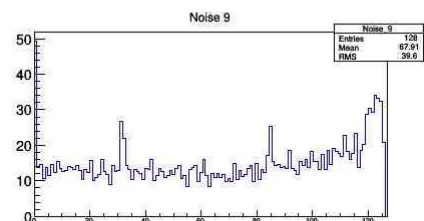
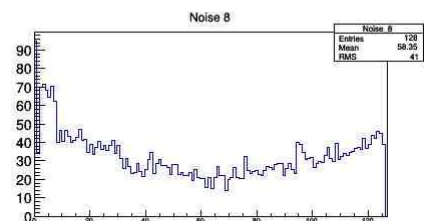
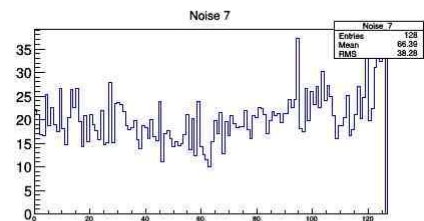
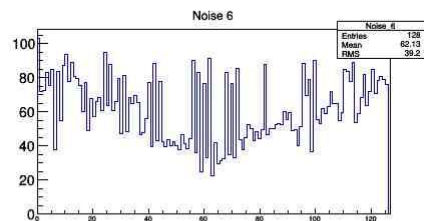
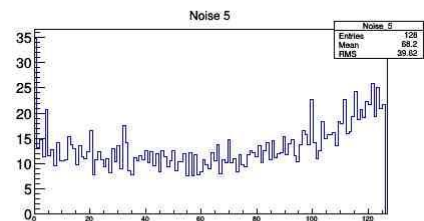
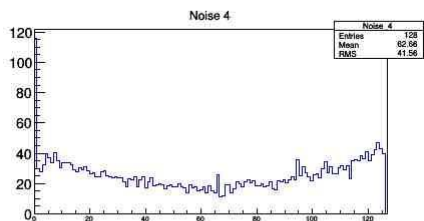
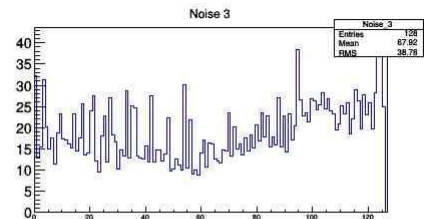
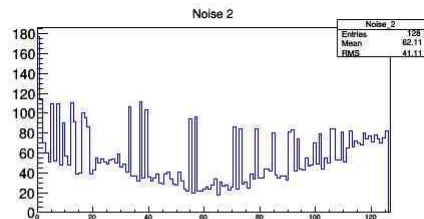
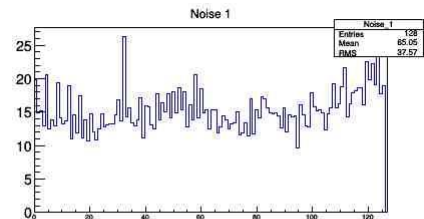
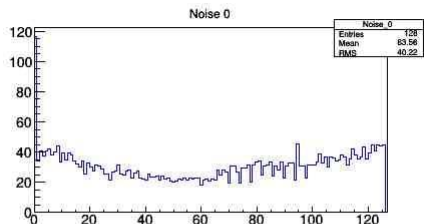
Experimental set-up

LumiCal tilted by 2, 4, 6 degrees – 5 GeV

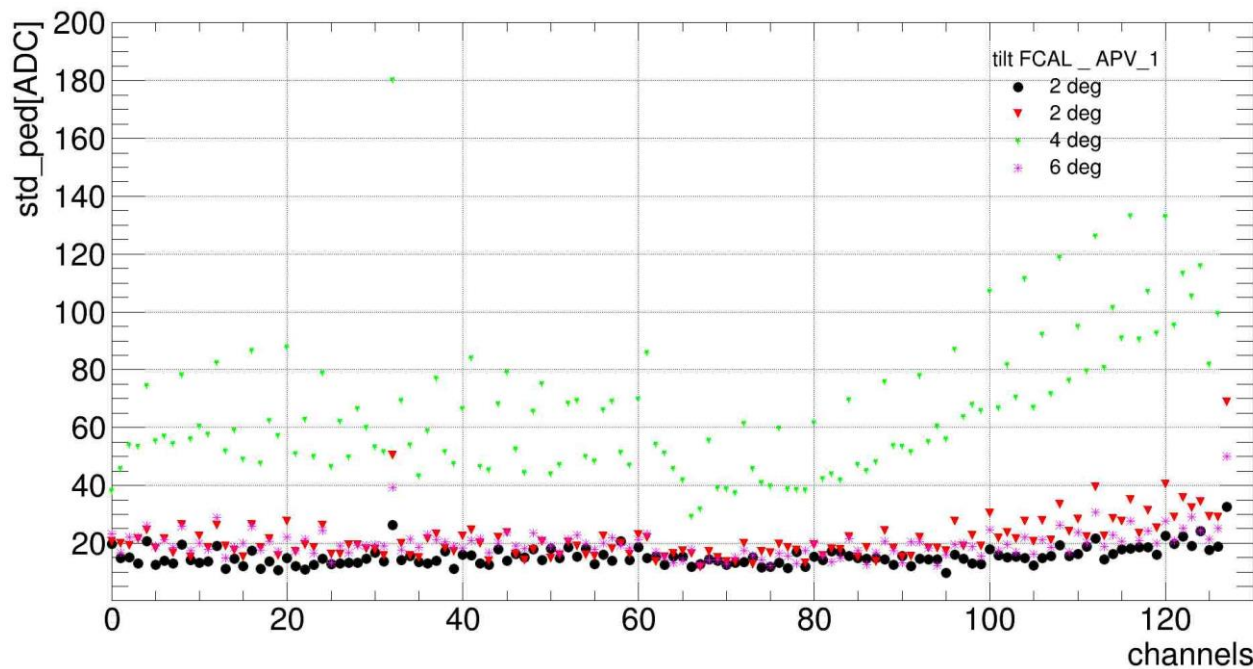
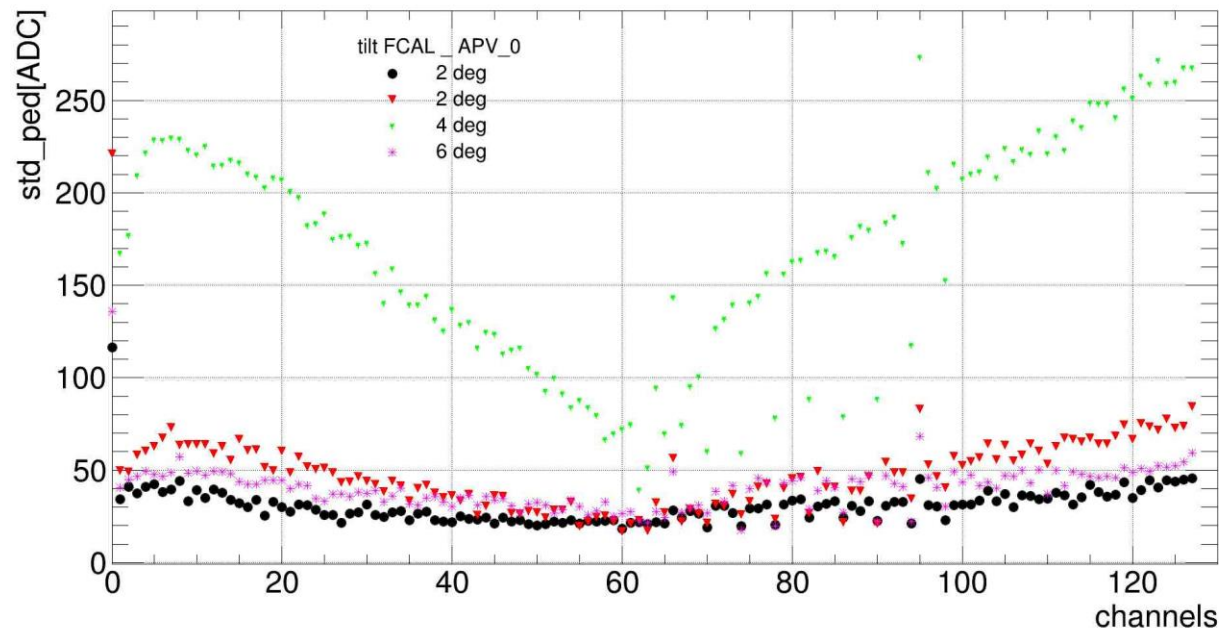
Run no.	Tilt (degree)
87	2
88	2
94	4
103	6



- APVs noise – run 87 – FCAL tilted - 2 degree



Noise distribution for all channels



- Run no.:
87, 88, 94, 103 – FCAL tilted

Next steps

- More runs will be check, like runs used for energy scan: 174, 188, 193, 198, 203
- Runs took during the LUXE experiment like: 228, 234, 237, 238