

LED Monitoring Update

Calorimetry meeting 05 Jan 2022

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of Regina



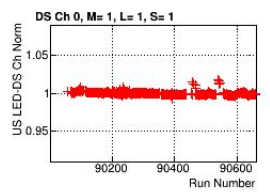
Faculty of
Science

Normal plots

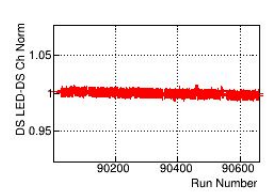
Y Axis
0.91
To
1.09

Run Number
→

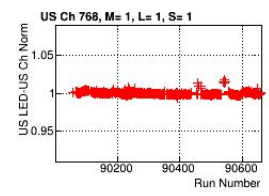
US LED



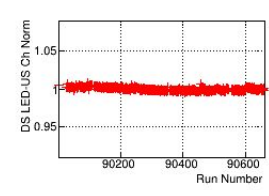
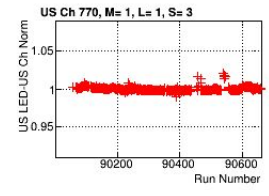
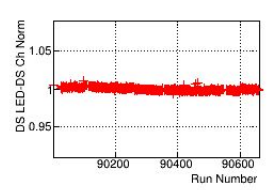
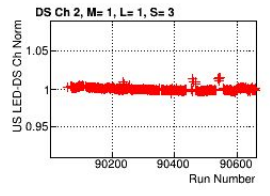
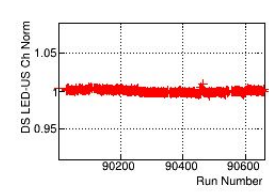
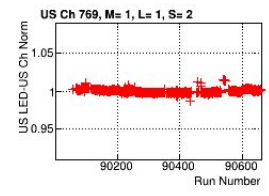
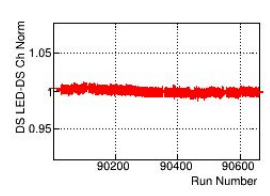
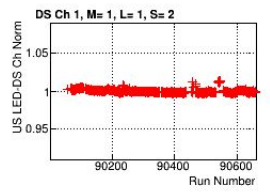
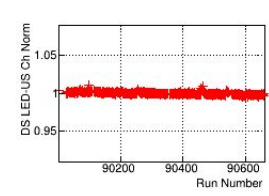
DS LED



US LED



DS LED



Downstream SiPMs

Upstream SiPMs

SRC-592 Runs

- 90001-90662
- Both DS and US LEDs are pulsing

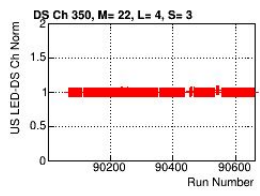
SiPM issues

Y Axis
0.92
To
1.08

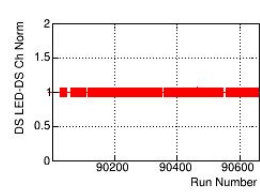
Y Axis
0.95
To
1.05

Run Number
→

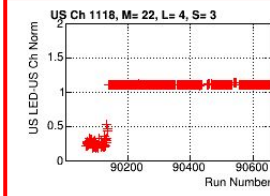
US LED



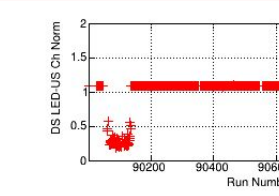
DS LED



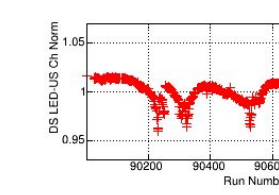
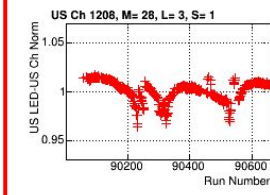
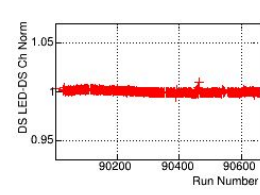
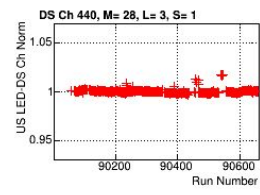
US LED



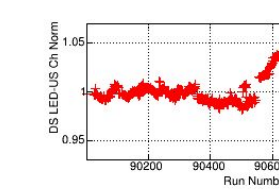
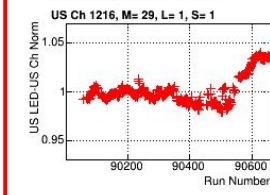
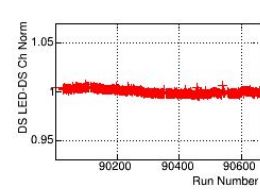
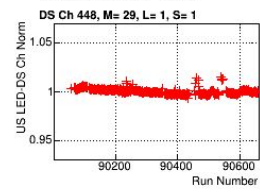
DS LED



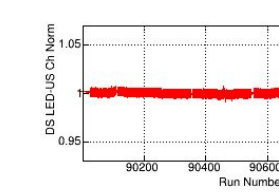
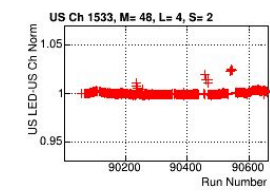
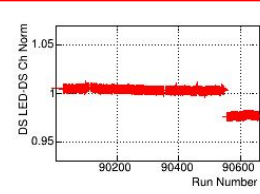
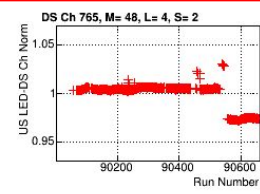
Ch=1118 (US)
M=22,L=4,S=3
Till 90135



Ch=1208 (US)
M=28,L=3,S=1
3% fluctuation



Ch=1216 (US)
M=29,L=1,S=1
3% deviation



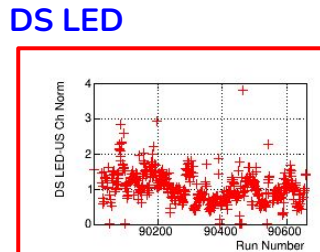
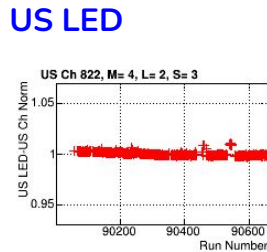
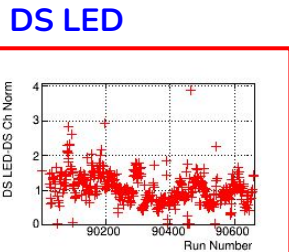
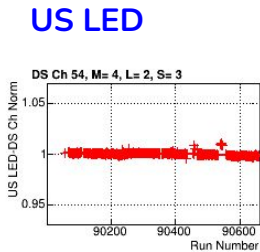
Ch=765 (DS)
M=48,L=4,S=2
2% deviation

Downstream SiPMs

Upstream SiPMs

LED issues

Y Axis
Unzoomed



96 DN LEDs
fluctuations

16 UP LEDs
fluctuations

Run Number



Similar patterns for 2 & 4 plot (same LED)



Downstream SiPMs

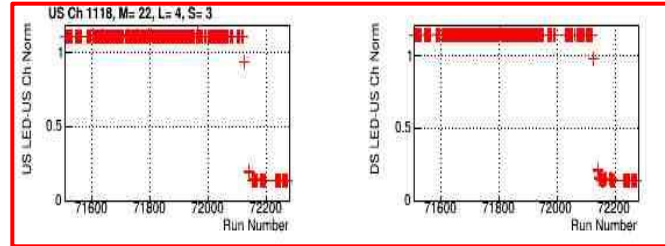
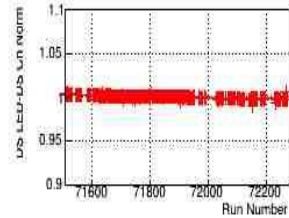
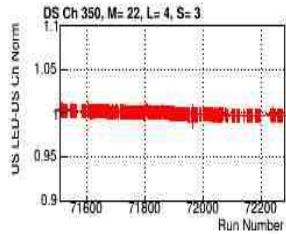
Upstream SiPMs

Conclusions

- SiPM and LED operation mostly nominal for SRC run
- SiPMs 1118, 1208, 1216 , 765 had deviations
- 112 out 1536 LEDs has fluctuations (previously reported)

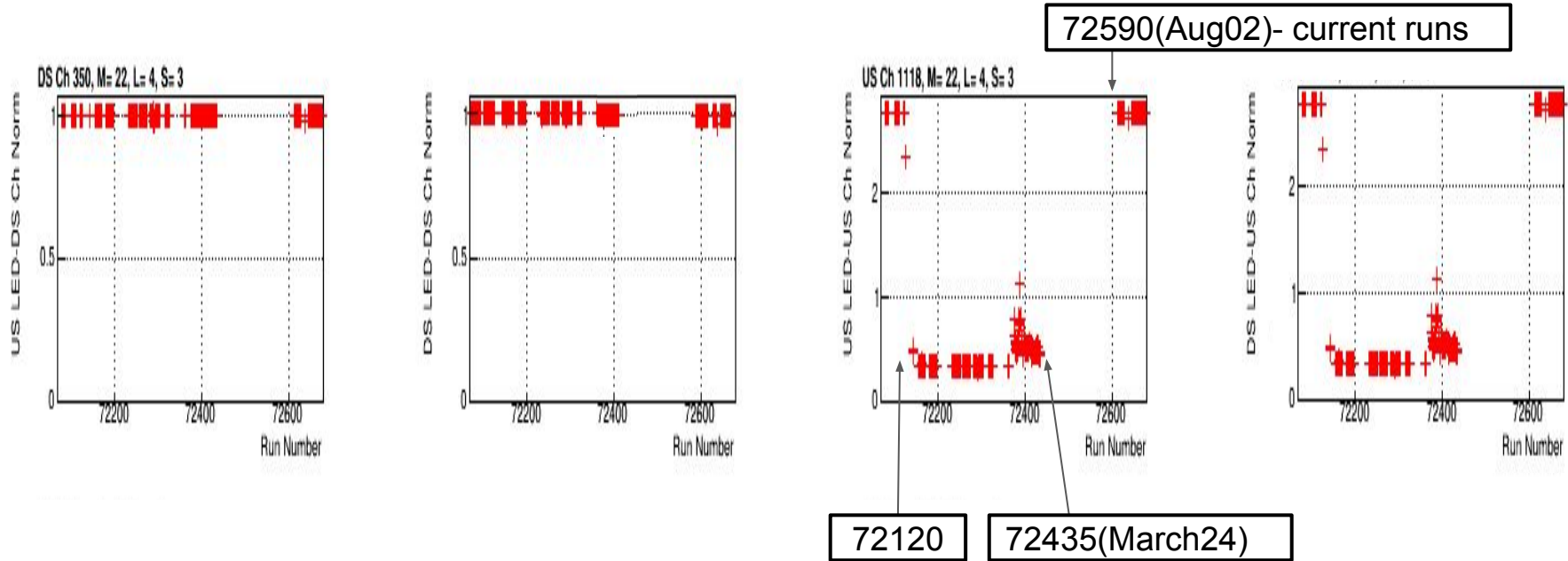
Channels with issues

- Fall 2021 - **1118**, 1270, 1218, 1246, 461
- Spring 2020 - **1118**



Ch 1118 Hot Channel (after Run No. 72120) Reported

Ch 1118 remained hot channel for run range 72120 - 72435



The x axis ranges from 72068 - 72680 including the new runs. In between there was a jump in gain from 72362- 72435.