

**LED Monitoring Update  
Calorimetry meeting Oct 13 2021**

Varun Neelamana



University  
of Regina



Faculty of  
Science

Normal plots

Y Axis  
0.98  
To  
1.02

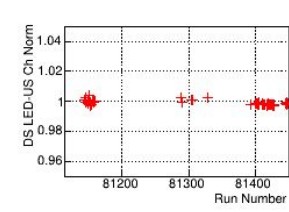
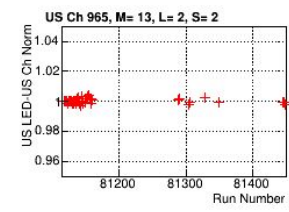
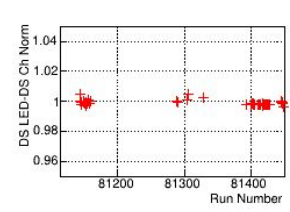
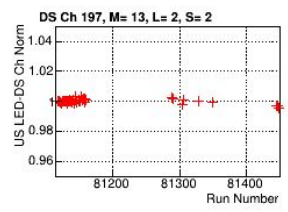
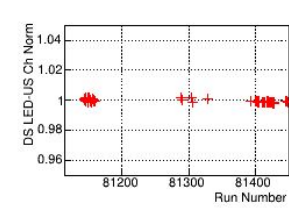
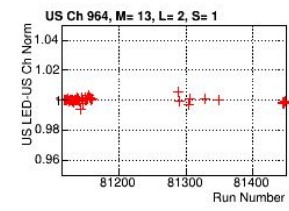
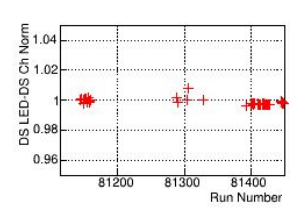
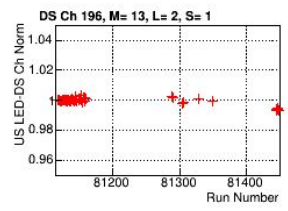
Run Number  
→

US LED

DS LED

US LED

DS LED



Downstream SiPMs

Upstream SiPMs

131 Runs

- 81113-81451
- Either DN LED or UP LED being pulsed (for few runs both triggers are found)
- Test runs-(81167-81260),(81269-81287)
- Skimmed files not available from 81330-81402

# SiPM issues

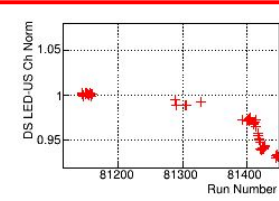
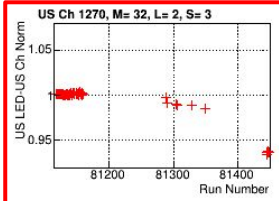
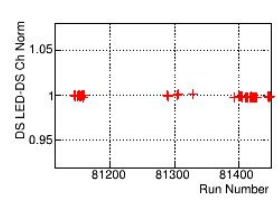
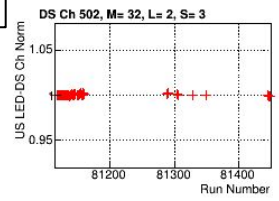
Y Axis  
0.92  
To  
1.08

**US LED**

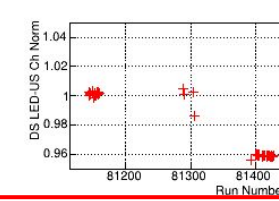
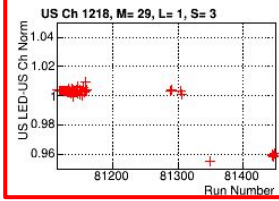
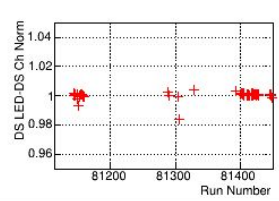
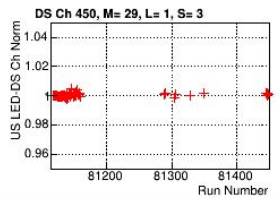
**DS LED**

**US LED**

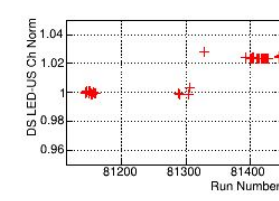
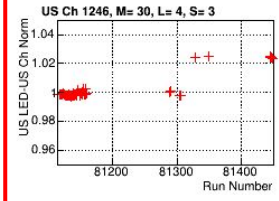
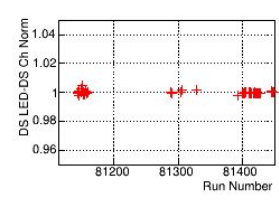
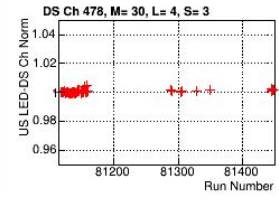
**DS LED**



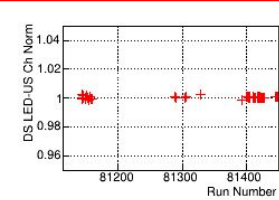
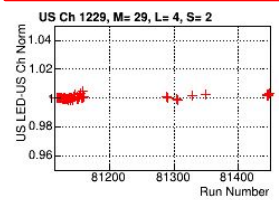
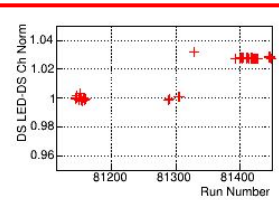
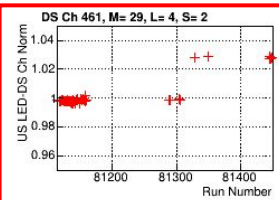
**Ch=1270 (US)**  
**M=32,L=2,S=3**  
**6% deviation**



**Ch=1218 (US)**  
**M=29,L=1,S=3**  
**4% deviation**



**Ch=1246 (US)**  
**M=30,L=4,S=3**  
**3% deviation**



**Ch=461 (DS)**  
**M=29,L=4,S=2**  
**3% deviation**

Run Number  
→

**Downstream SiPMs**

**Upstream SiPMs**

# LED issues

US LED

DS LED

US LED

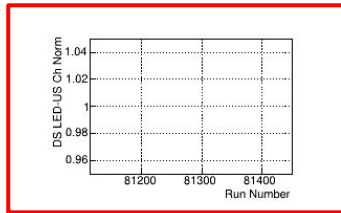
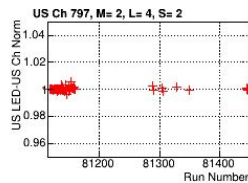
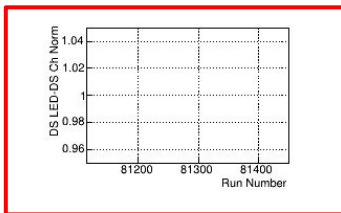
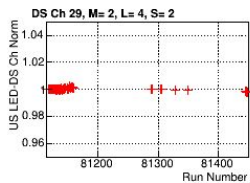
DS LED

Y Axis

0.95

To

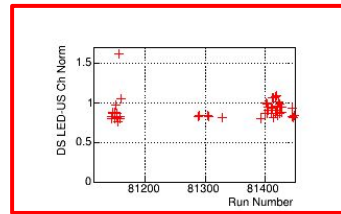
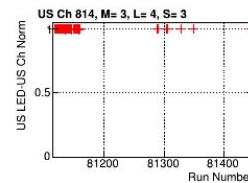
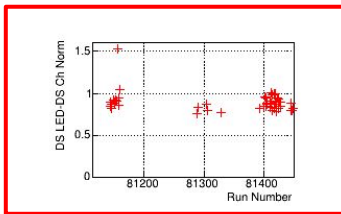
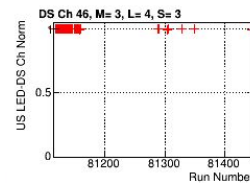
1.02



39 DN LEDs (out of 768)  
No response

Y Axis

Unzoomed



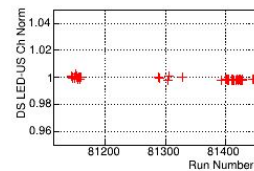
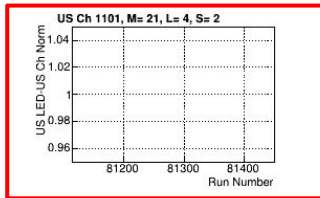
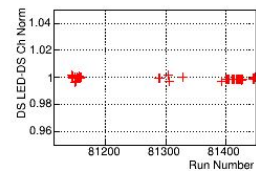
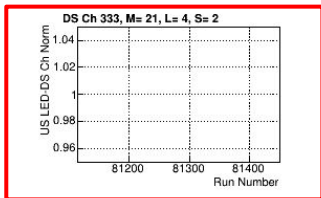
96 DN LEDs  
fluctuations

Y Axis

0.95

To

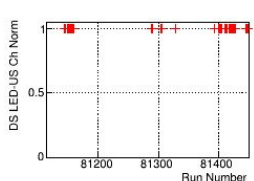
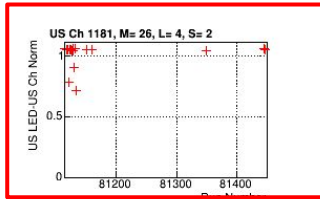
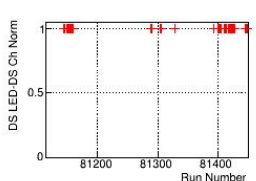
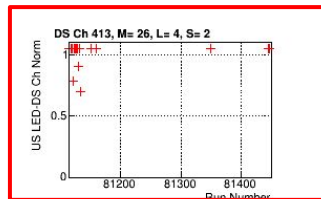
1.02



3 UP LEDs (out of 768)  
No response

Y Axis

Unzoomed



16 UP LEDs  
fluctuations

Similar patterns for 1 & 3 plot (same LED)

Downstream SiPMs

Upstream SiPMs