Direct Dump BLMs

B. Dehning, E. Effinger, E. Holzer, E. Nebot
MPP 27-05-2011

OUTLOOK

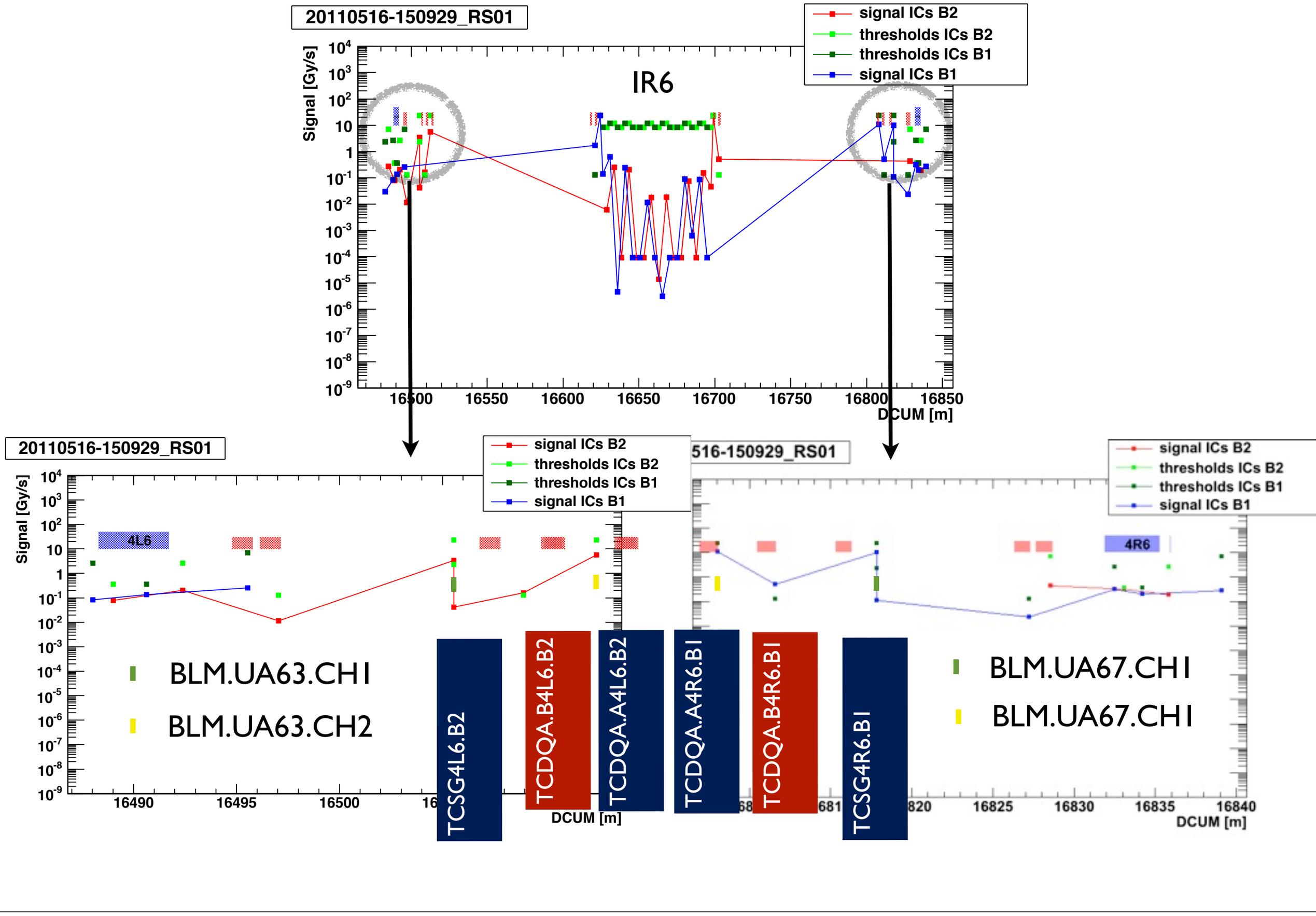
- LOCATION OF THE DIRECT DUMP BLMS (and near by monitors)

- ELECTRONIC CIRCUIT OF THE BLM MONITORS AND NEW SETTINGS

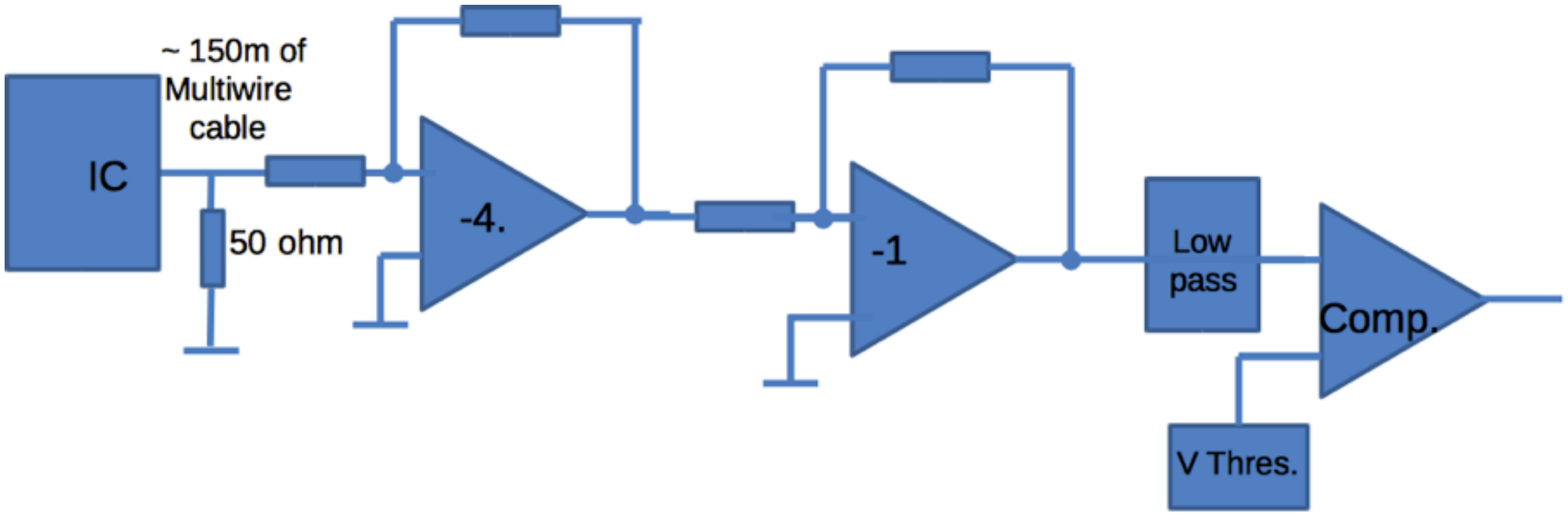
- OBSERVED SIGNALS (correlations with near by monitors)

- CONCLUSIONS

Location of the Direct Dump monitors



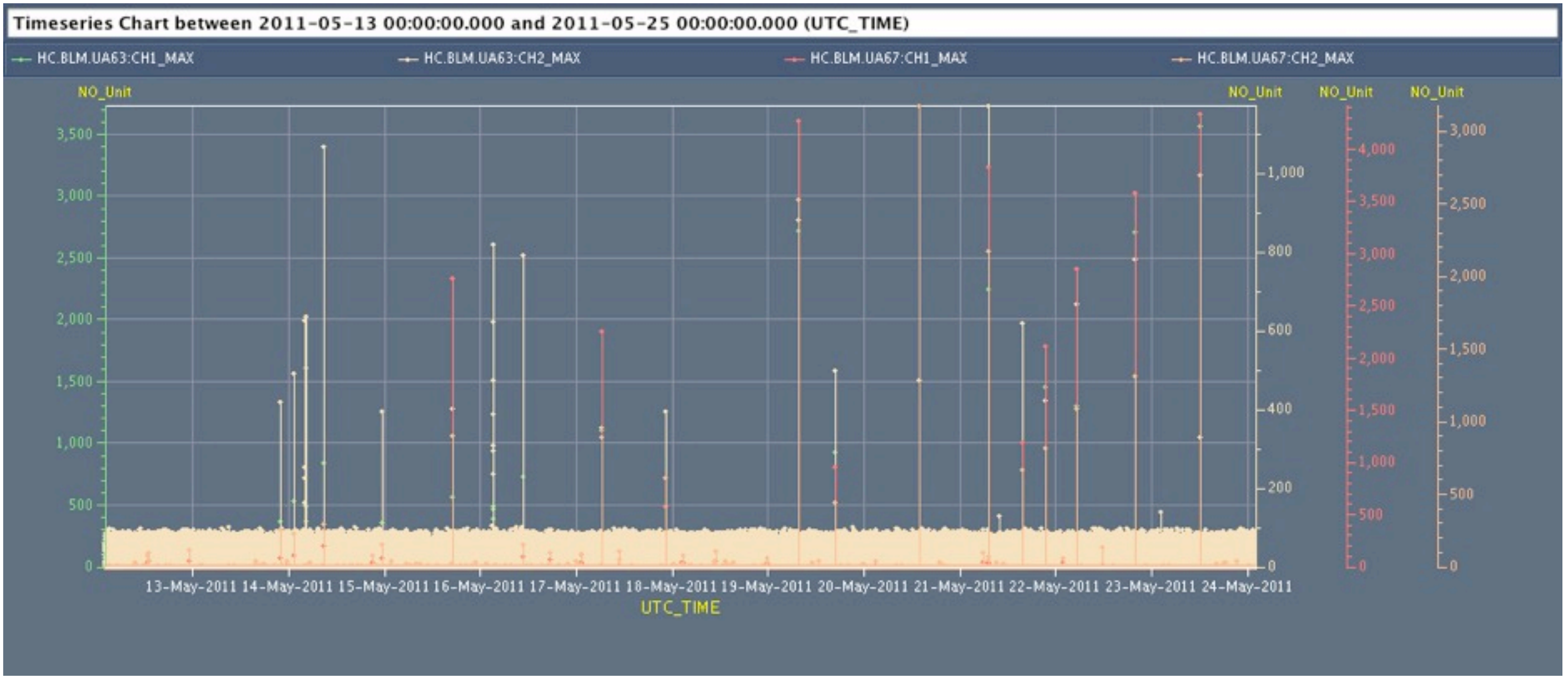
Direct Dump Circuit



- Dynamic range 65536 Bits => 10V => 50mA
- Currently not connected to LBDS
- Threshold 44590 Bits => 6.8V => 34mA => 0.0252Gy/40us = 630.17Gy/s. This threshold was set based on signals observed in BLMEI.04L6.B2110_TCDQA.B4L6 (11 ms filter) during asynchronous dump

Observed Signals

- Clear spikes observed in BLMDD during beam dumps



Observed Signals

- Analysis of highest (meaningful) signals between 13/05 00:00:00 and 25/05 00:00:00 (UTC). Signals (40us) in monitors protecting TCSGs or TCDQAs higher than 5 Gy/s.

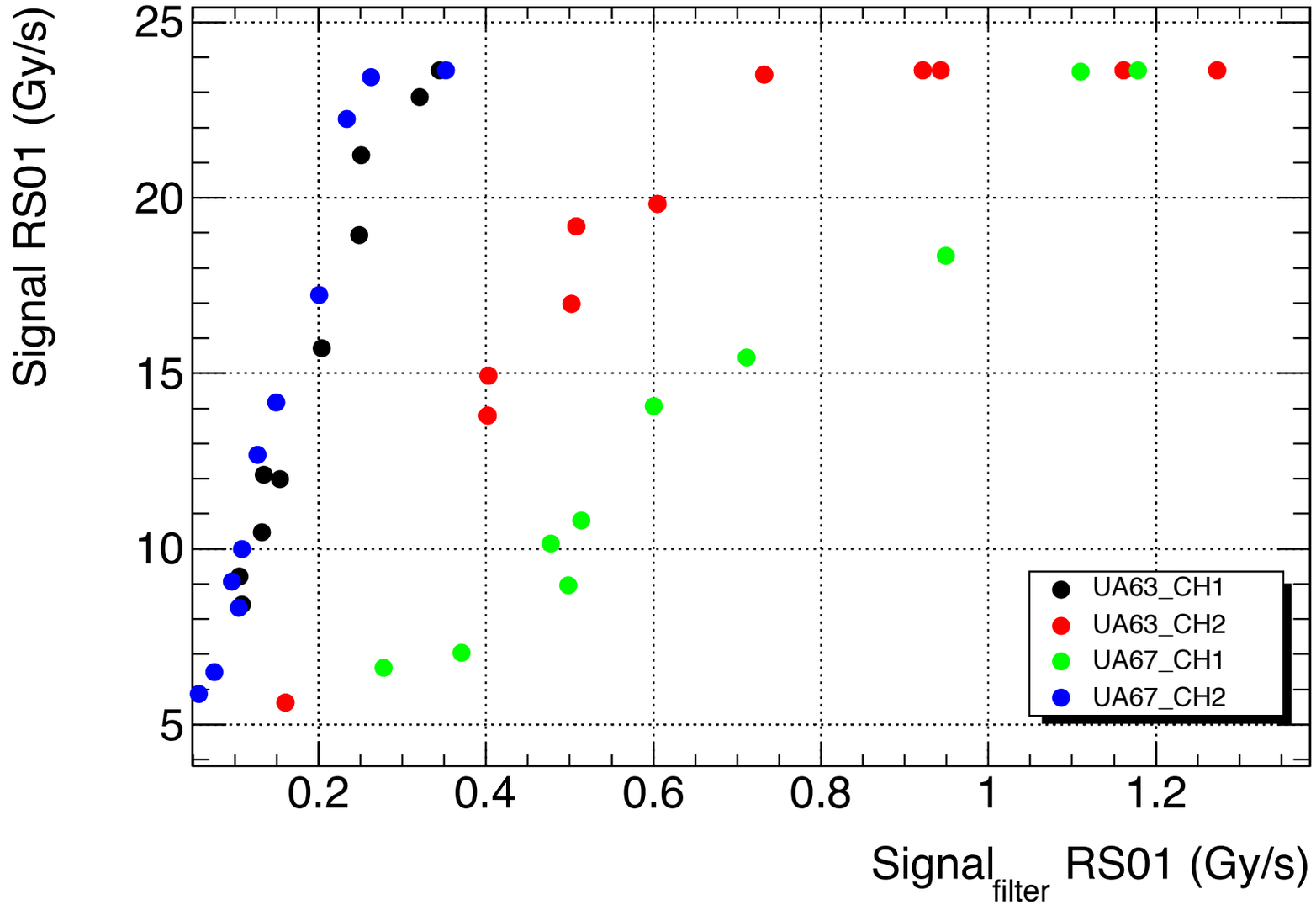
BLM.UA63.CH1 = TCSG.B2

BLM.UA63.CH2 = TCDQA.B2

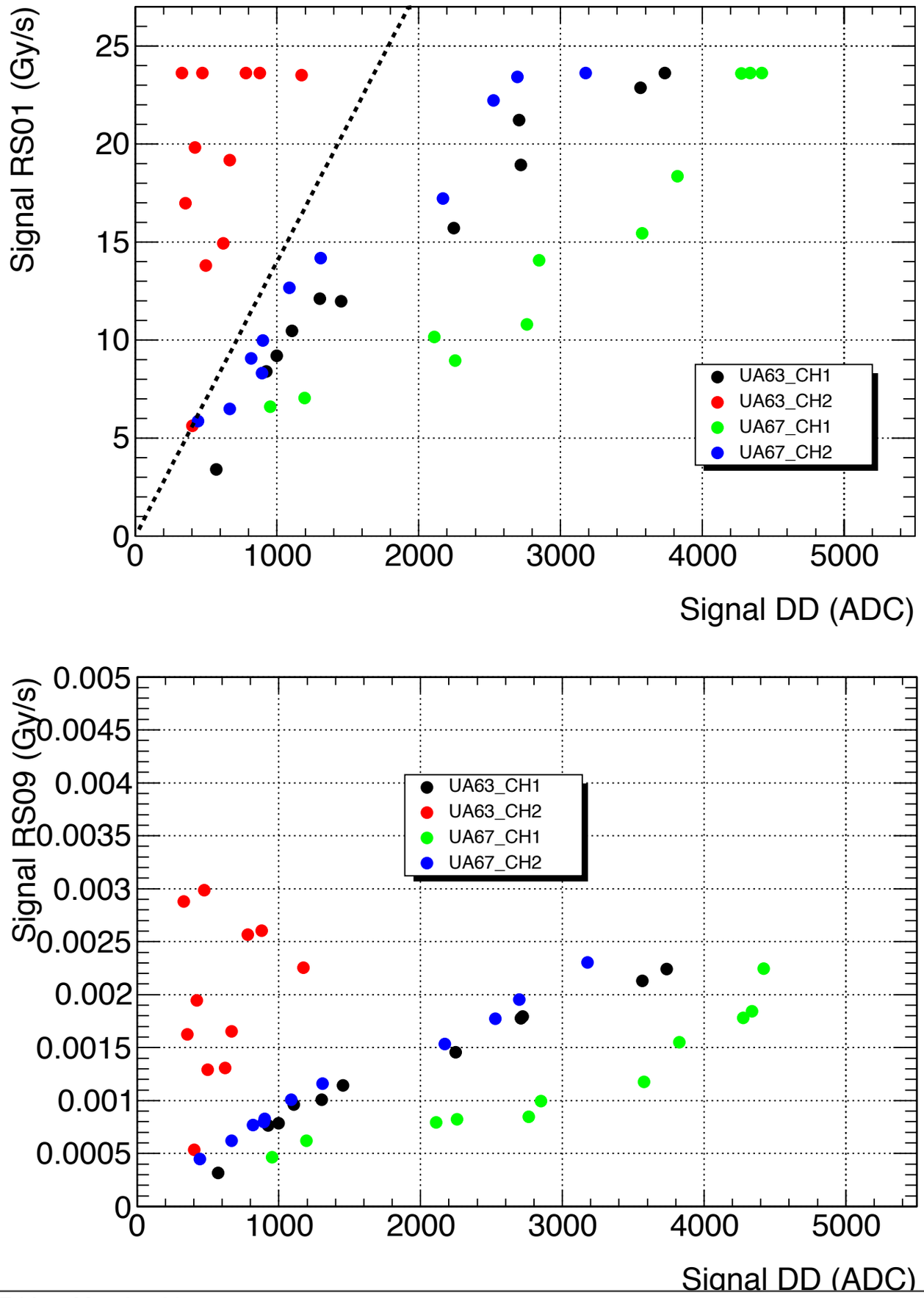
BLM.UA67.CH1 = TCDQA.B1

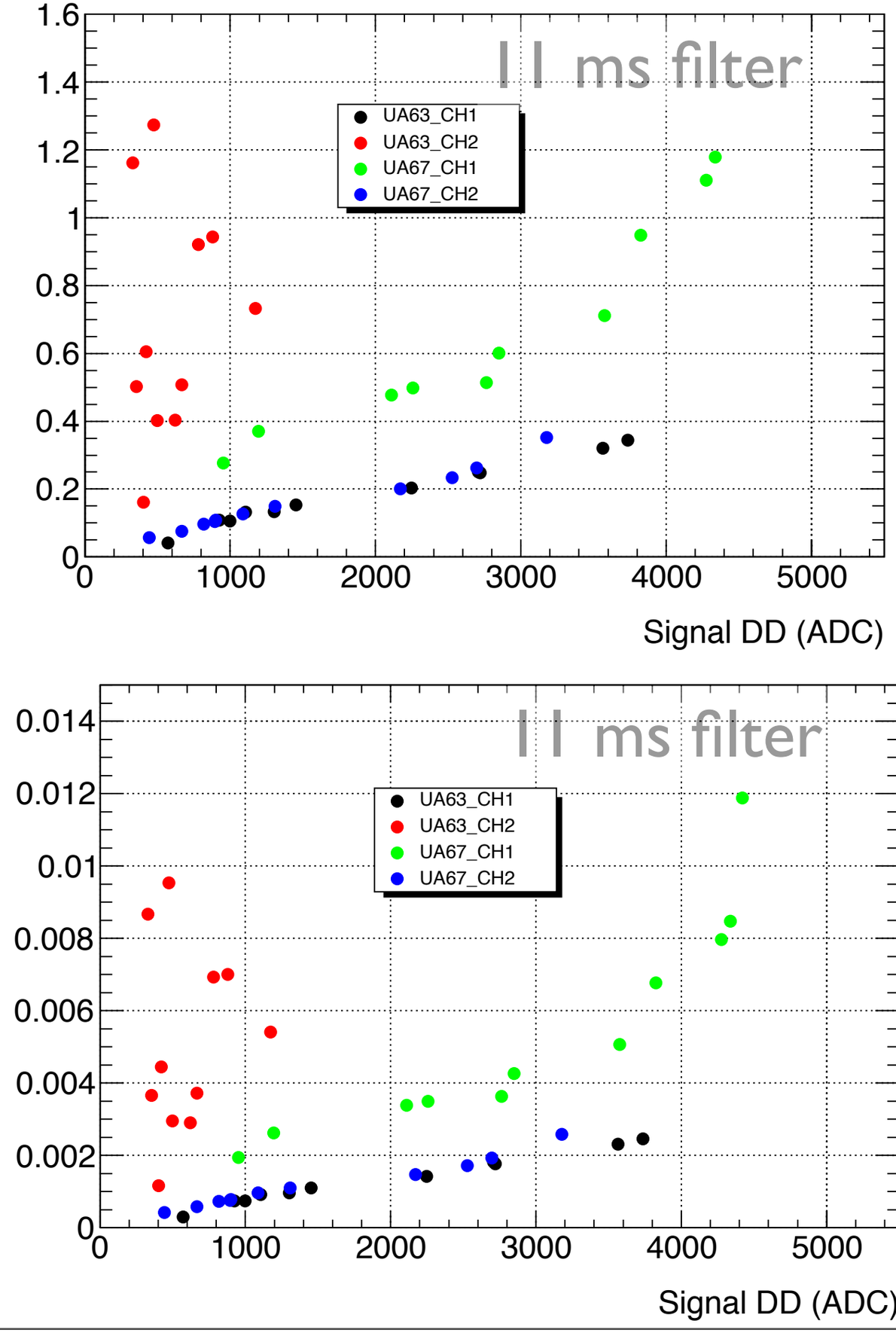
BLM.UA67.CH2 = TCSG.B2

Comparison of signals in IC and IC with filter with standard read-out (signal integrated in 40us)



Observed Signals





CONCLUSION

- Ionization Chambers placed as Direct Dump monitors instead of SEM. Currently not connected to LBDS. One more access required

- Nice correlation between signals in BLMDD and monitors close by.

- Funny behaviour of BLMDD located near TCDQA.B2 requires some more investigation.