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CERN BE-BI

# Event

- Date 03.05.2015
  - beam dumped by monitor BLMQI.21R6.B1E10.MQ, 13.24.50
  - higher signal already observed in the whole octant, 13.24.30
  - change in HV current observed at 13.23.52

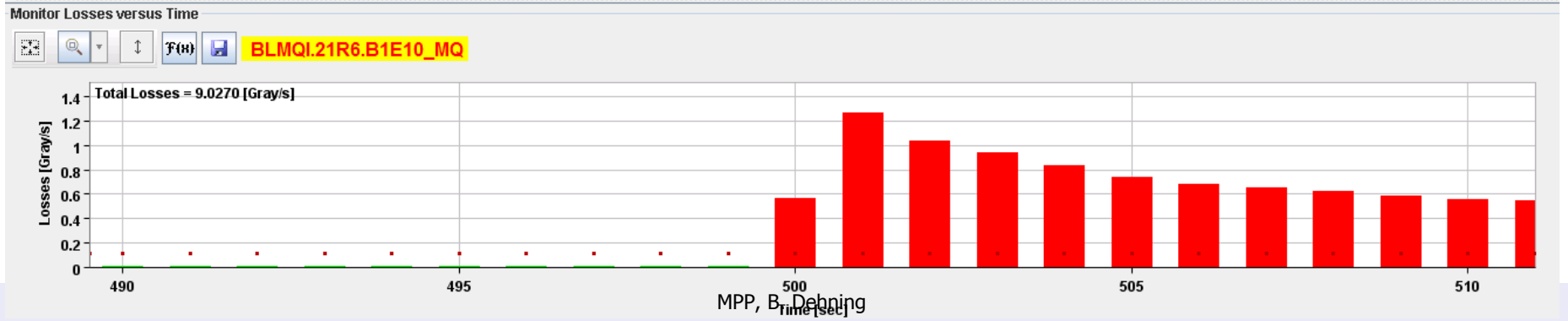
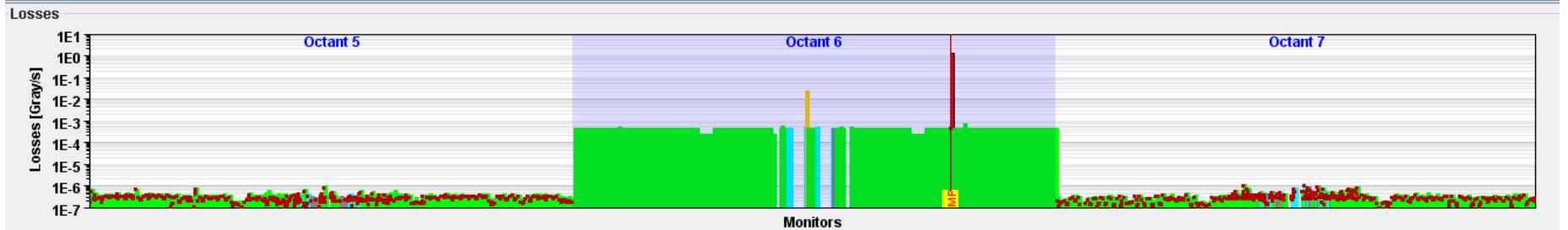
Unit: Gray/s    Scale: Log    Integration Time: 1.3 s    Losses: Max    Display: Acquisition

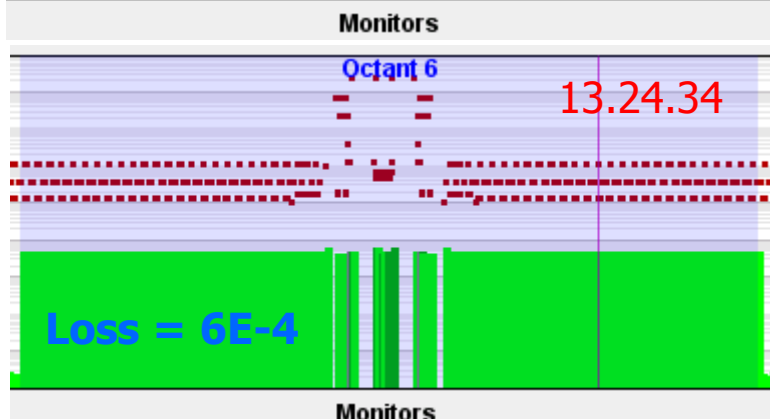
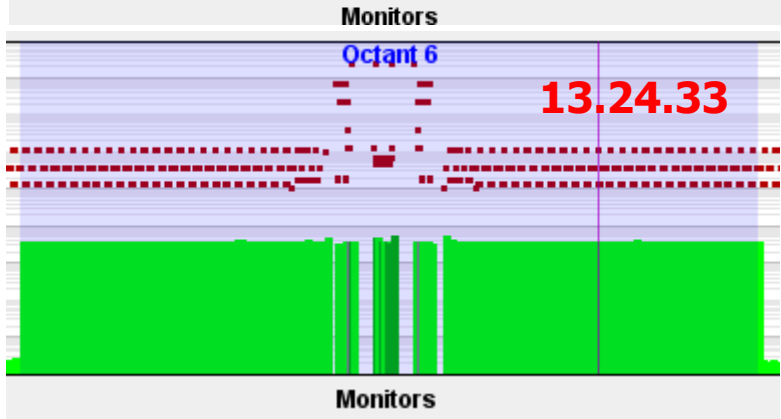
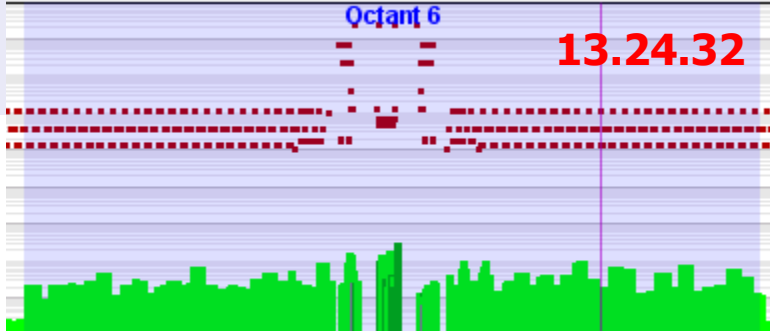
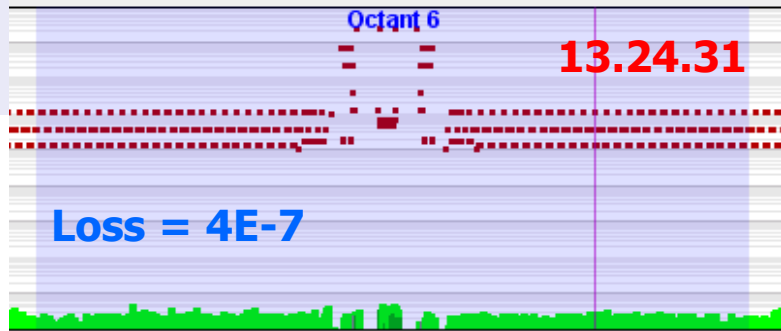
Octant Filter   Sectors Filter   Dump Filter   List Filter   Regex Filter   Beam Permit Filter

Filter (1365 / 3929)

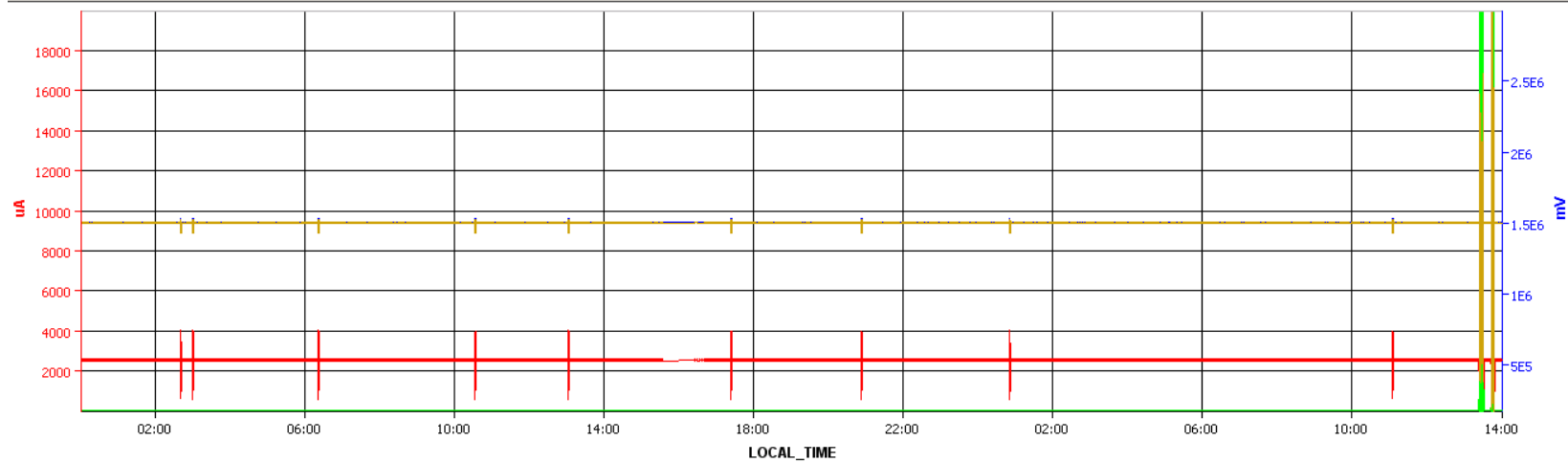
Monitor	40 us	80 us	320 us	640 us	2560 us	10 ms	82 ms	655 ms	1.3 s	5.2 s	20.9 s	83.8 s	Type	Section	Left Ri...	Octant	Beam
BLMQI.21R6.B1E10_MQ	OK	OK	OK	OK	OK	OK	Dump	Dump	Dump	Dump	Dump	Dump	<input checked="" type="checkbox"/> IC <input type="checkbox"/> LIC <input type="checkbox"/> FIC <input type="checkbox"/> SEM	<input checked="" type="checkbox"/> LSS <input checked="" type="checkbox"/> DS <input checked="" type="checkbox"/> ARC	<input checked="" type="checkbox"/> Left <input checked="" type="checkbox"/> Right	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 6 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 4 <input type="checkbox"/> 8	<input checked="" type="checkbox"/> Beam 1 <input checked="" type="checkbox"/> Beam 2 <input checked="" type="checkbox"/> Centre

03.05.2015 13:24:50

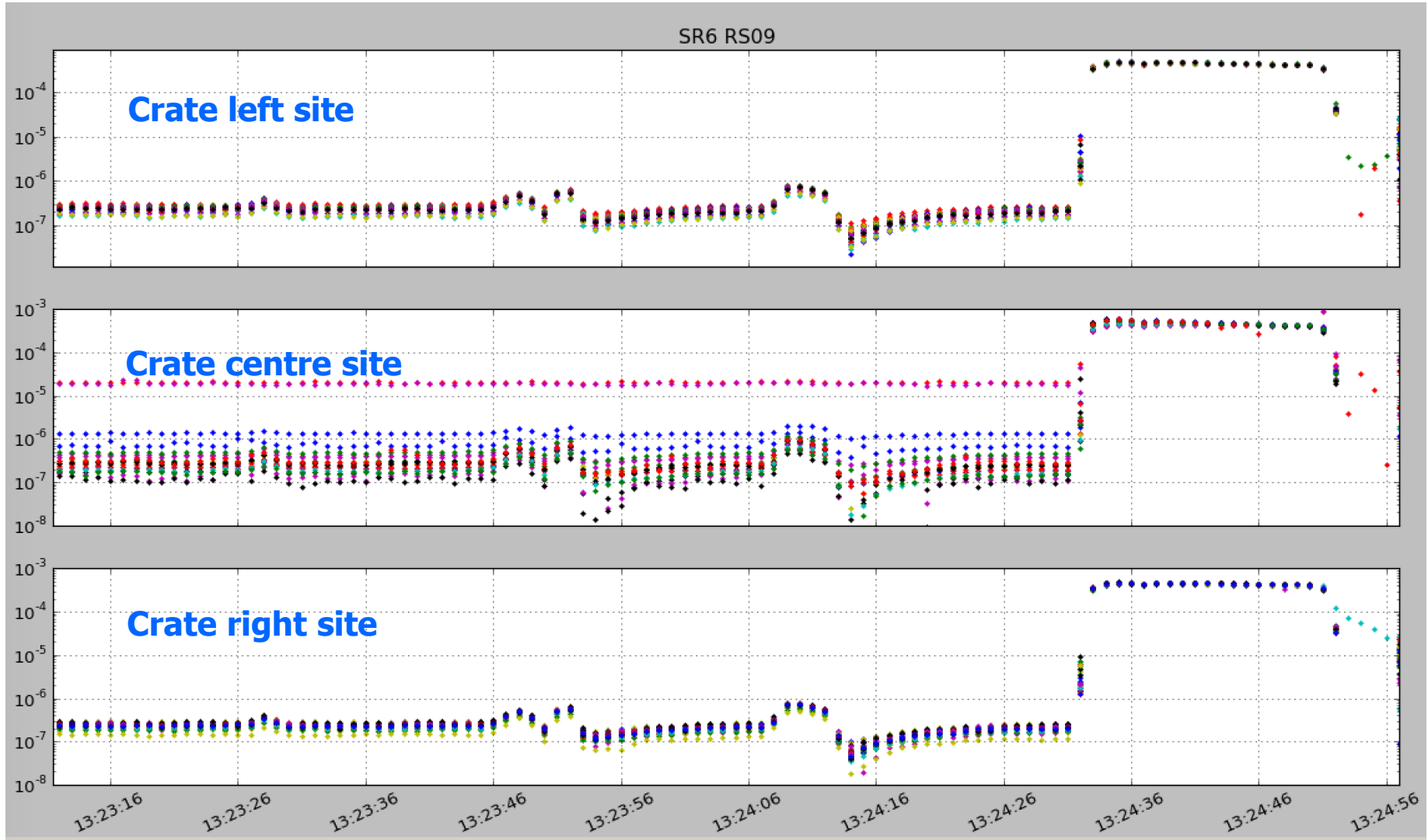




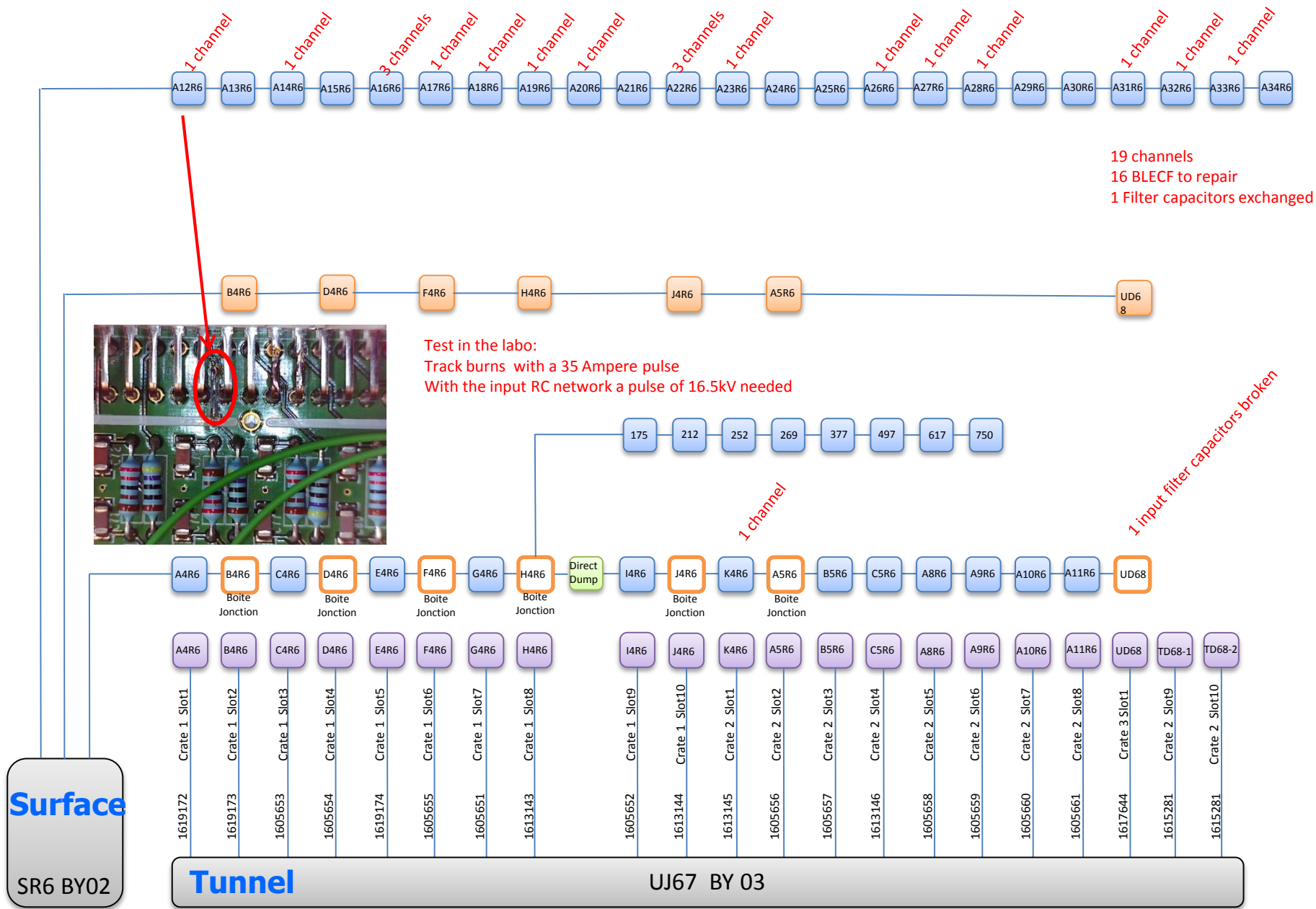
Timeseries Chart between 2015-05-02 00:00:00.000 and 2015-05-03 14:00:00.000 (LOCAL\_TIME)



# IP 6 beam loss signal - sum of 8 channels vs time



Same signal structure seen at all groups of monitors



19 channels  
 16 BLECF to repair  
 1 Filter capacitors exchanged

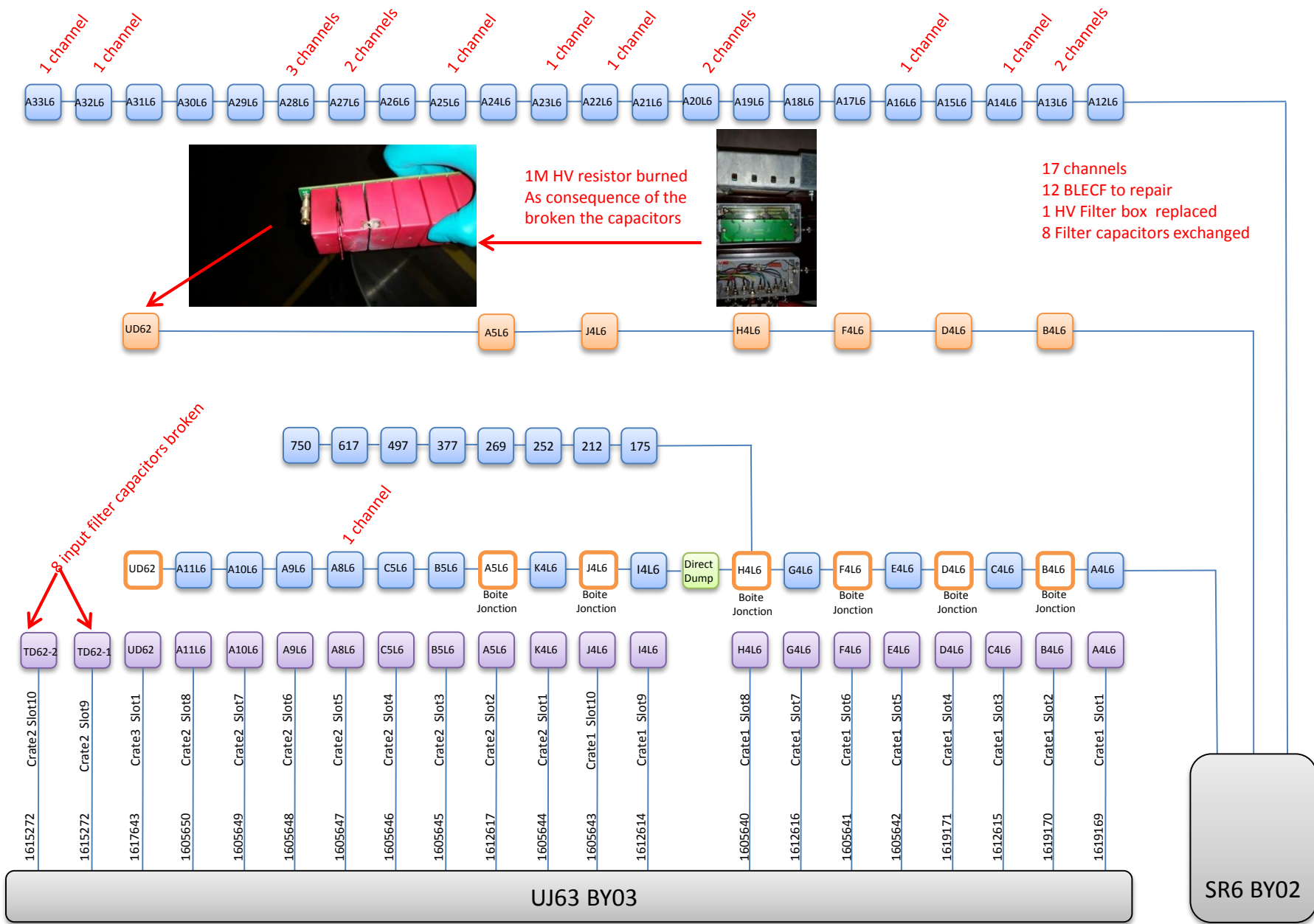
Test in the labo:  
 Track burns with a 35 Ampere pulse  
 With the input RC network a pulse of 16.5kV needed

1 input filter capacitors broken

Surface  
 SR6 BY02

Tunnel  
 UJ67 BY 03

HT SEM Boite Jonction Analog



# Summary and foreseen actions

- Observations
  - Damage of several tunnel digitizer cards input circuits
  - Damage of filter components
  - Damage could not come from BLM equipment, because of the power needed for the damages, several tenth of ampere in 100 us
- Comparison with October event
  - It is assumed that causes for the ionisation chamber high voltage increase are identical
- Investigation
  - Try of determination of entry location of high voltage pulse by data analysis
    - From the Sunday event postmortem data are stored
- Action
  - Installation of a overvoltage protection on the tunnel cables
  - May preventive exchange of HV in IP6 cables during TS1