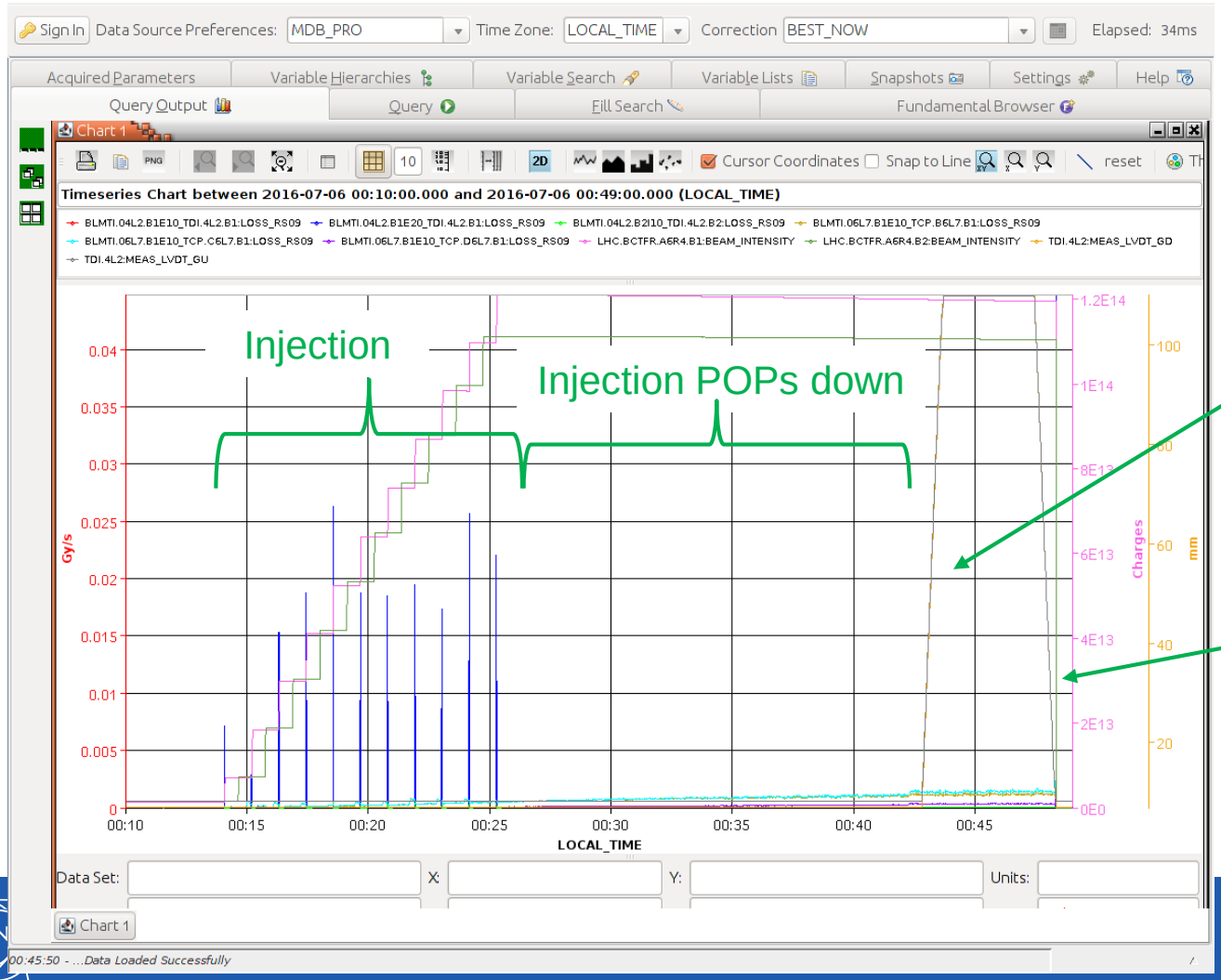

CERN

BLM Measurements at Collimators and TDI in Fill 5074

A. Mereghetti
With valuable input from C. Bracco, R. Bruce, A. Lechner, S. Redaelli

Dump of Fill 5074

Fill 5074 dumped at injection by BLM at TCTPV.4R2.B2, on RS08;



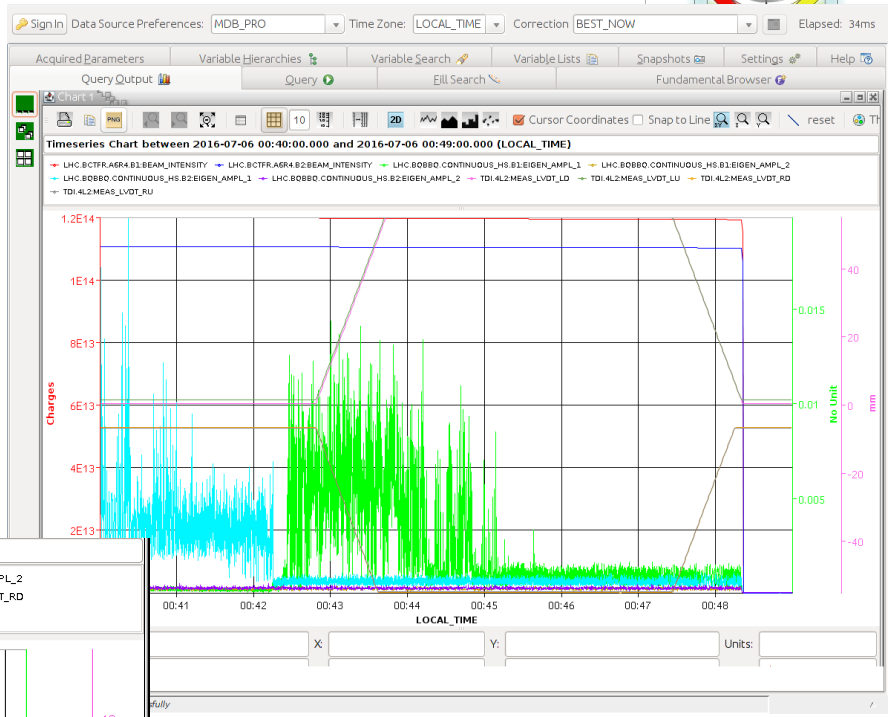
TDI moved out after 15-20m of waiting time, to avoid over-heating;

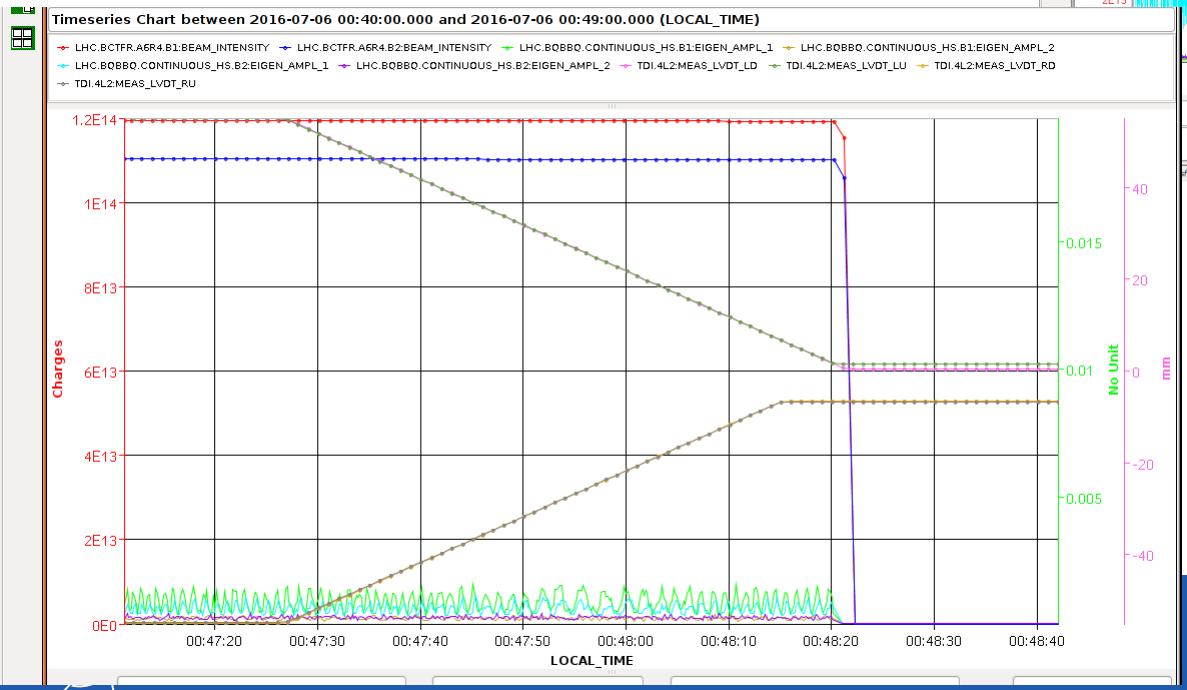
Moved back in when injection resumed; Losses appeared at the very end of movement!

TDI Movement

Beam dumped at the very end of TDI.4L2 movement!

→ Losses seem to be induced by upper jaw touching some beam halo;



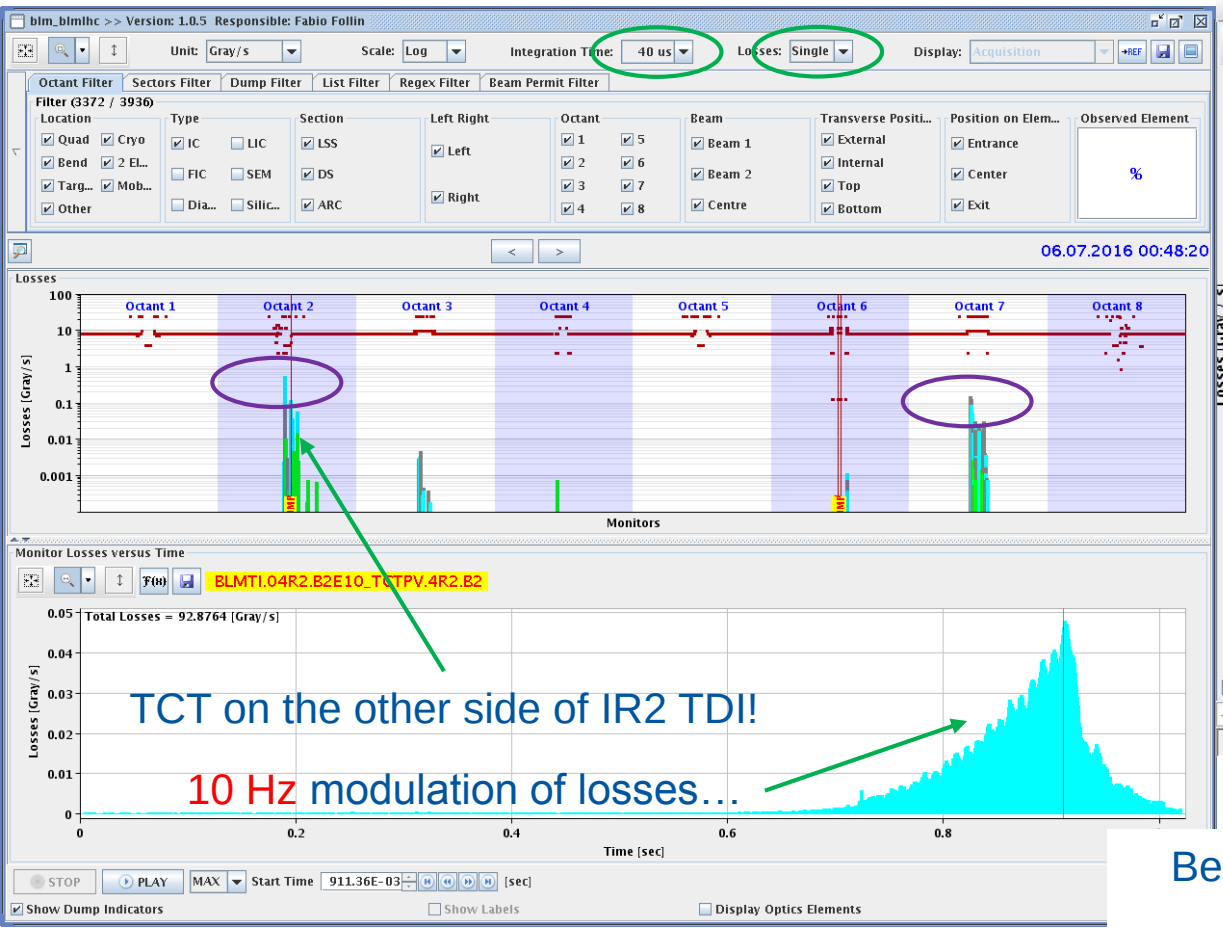


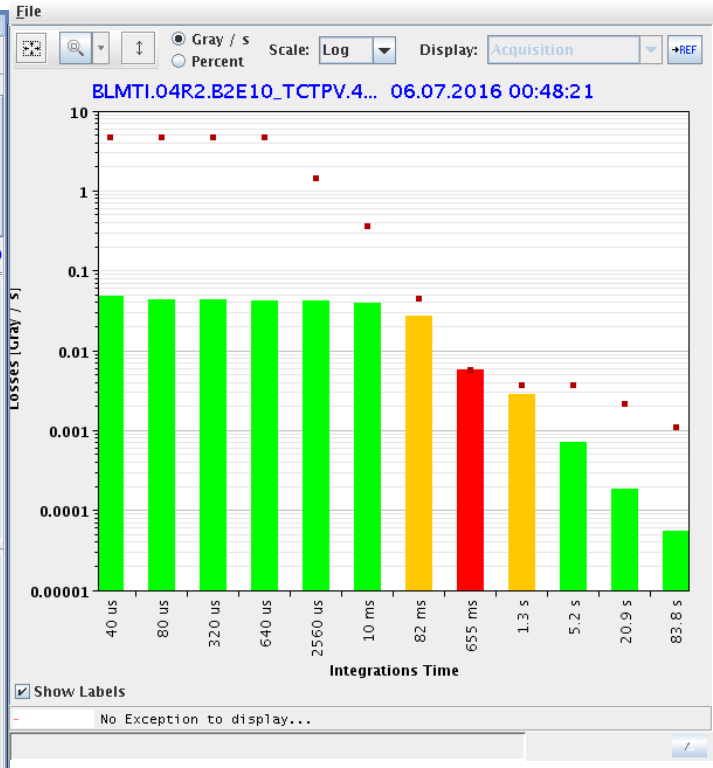
In PM buffers, no signs of:

- Orbit distortion;
- Beam instability;

→ No evident reason for losses…

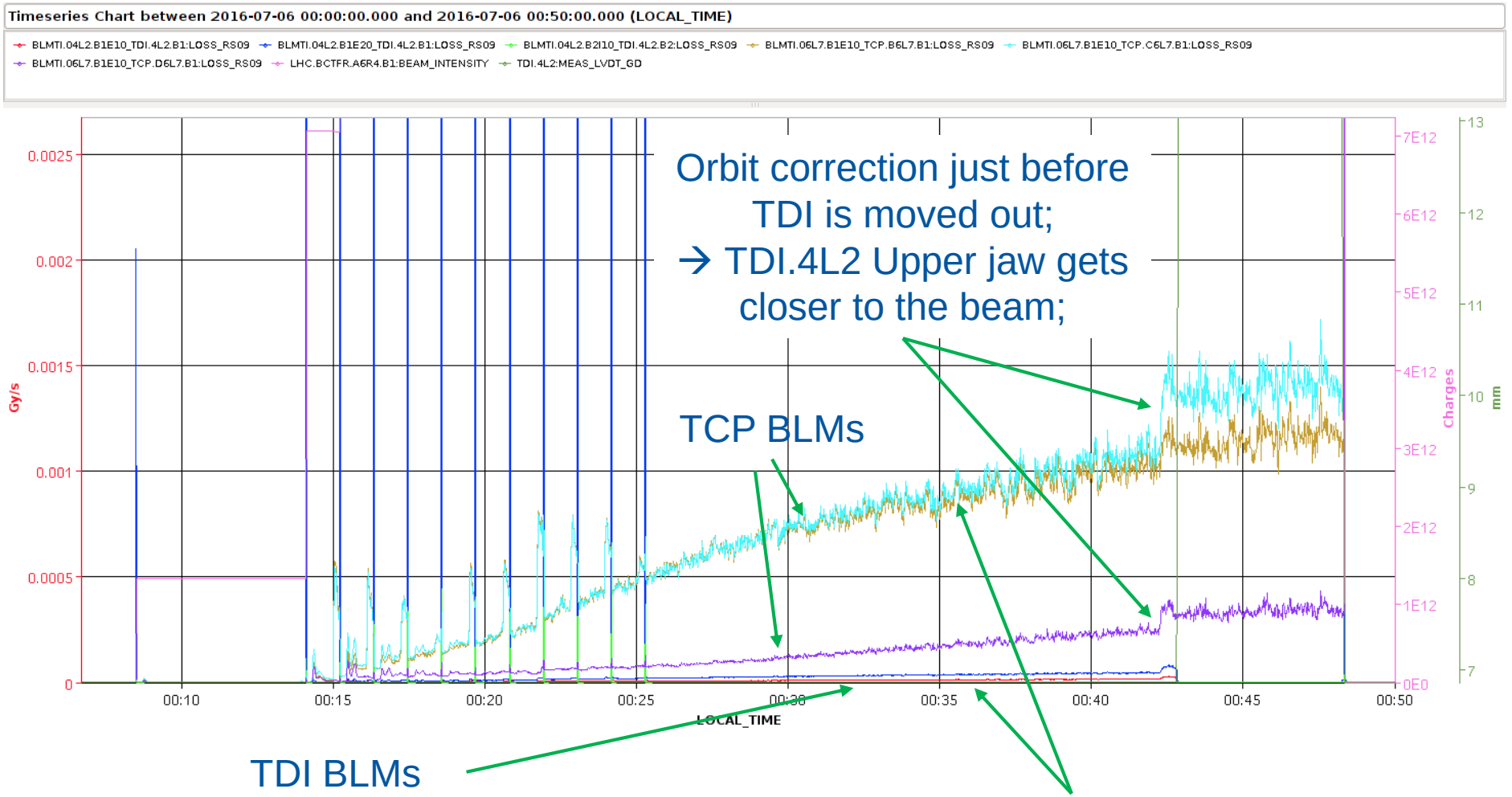
BLM Signals at TCTPV.4R2



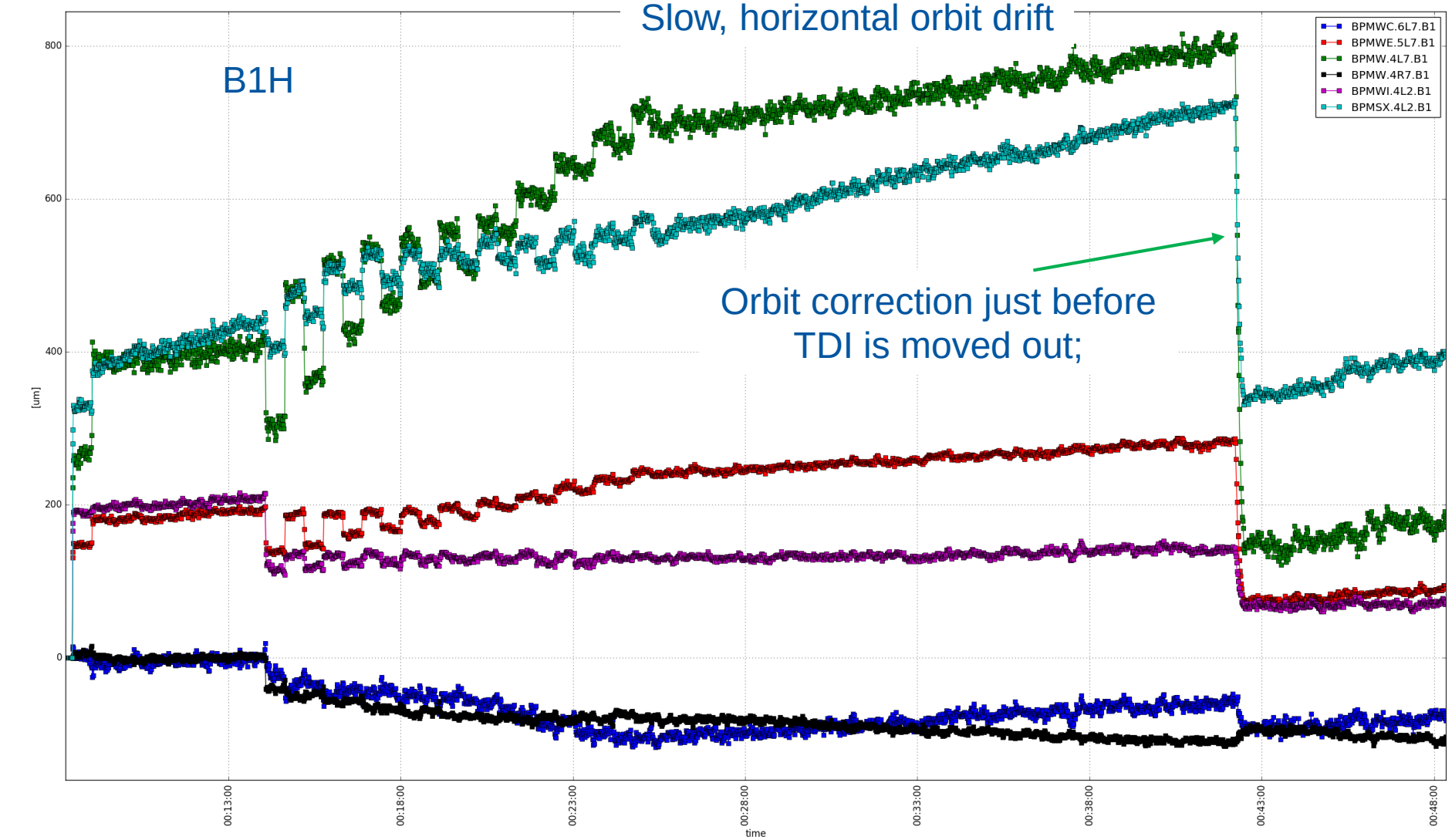


Beam dump took place clearly after losses calmed down;
→ Losses high enough to trip TPC field cage (though TPC in inj safe mode – see A.Alici, BLMTWG meeting #40)

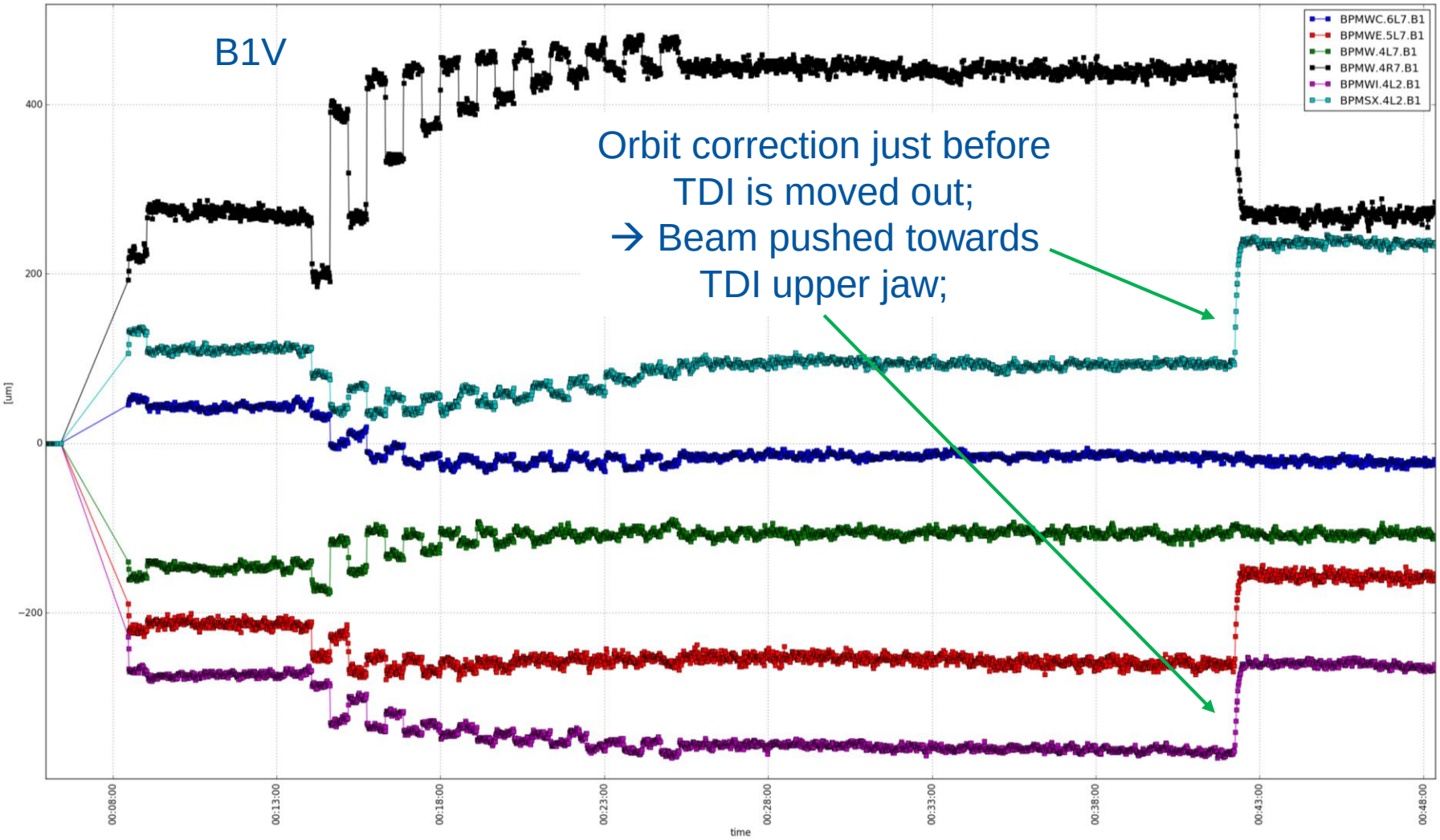
Time Evolution of Losses



Orbit Changes



Orbit Changes (II)



Considerations

- Vertical shift of CO at TDI of the order of 0.2-0.3 σ;

→ Enough to erode the margin between TDI and TCSGs, i.e. at 6.8 and 6.7 σ, respectively;

→ Most probably, TDI was intercepting secondary beam halo at the time of the dump – hard to believe it was primary halo!

→ Do we have strong reasons to consider changing TCSG settings, e.g. by 0.2-0.3 σ?

- Change of CO took place before TDI moved out; since then, orbit stayed quite stable; how possible that some (apparent) secondary halo piling up took place?