



Fast loss events on SC elements

- 4 fast loss events : dump triggered by BLMs on SC elements.

- Time stamps:

| | | | | |
|-----------------------|----------------|----|-----|--------------|
| – 07.07.2010 20:22:19 | loss on MBB L7 | b2 | 9b | squeeze |
| – 30.07.2010 07:26:38 | loss on Q4.R5 | b2 | 25b | stable beams |
| – 07.08.2010 02:14:38 | loss on Q11.L4 | b1 | 25b | stable beams |
| – 08.08.2010 01:10:48 | loss on Q15.L5 | b1 | 25b | stable beams |



Fast loss events on SC elements

- Characteristics.

- BLM dump of RS05 – 2.5 ms. Loss duration/rise time $\approx 1.5-2.5$ ms
- Orbit (few μm) and trajectory (10-20 μm) stable.
- No beam loss measurable on BCTs.
- Event 1:
 - 5 'pre-cursors' spaced by ≈ 80 ms.
- Events 2-4:
 - No PC current changes.
 - High lifetime just before dump. Quiet and 'happy' beam.
 - Event 2/3 loss location close to horizontal focusing element.
 - Event 4 loss location close to vertical focusing element.

- Possible loss trigger:

- Dust/thin object dropping down across the beam.
 - Expected speeds ≈ 1 m/s - match.
 - Comparison with wire-scanner induced dump: object of ten's of microns would match. Also in agreement with FLUKA simulations.
- Beam dynamics.
 - Requires a fast mechanisms – high order resonance unlikely?
 - Un-bunched beam: very different optics and tunes?
- ...