

Collision at 450 GeV in the LHC

- General framework:
 - Complete installation Oct 07
 - Hardware commissioning (very limited for sectors 2-3 and 1-2) end Nov 07
 - Machine commissioning with collisions at 450 GeV (named: calibration run for experiments, no real physics).
 - 3-4 months shut down
 - Commissioning starts again.

Machine commissioning with collisions at 450 GeV

- It should respect the guidelines of the machine commissioning as discussed so far, i.e.
 - No crossing angle
 - Limited number of bunches (up to 156)
 - Luminosity of about $10^{30} \text{ cm}^{-2} \text{ s}^{-1}$
- Conditions:
 - No magnetic cycle -> storage ring
 - Two insertions partially squeezed (IR1/5).
 - Two insertions at injection settings (IR2/8).

Machine commissioning with collisions at 450 GeV: open issues

- Optics:

- Minimum beta* possible -> aperture
- New optics required?
- Powering issues/corrector circuits

S. Fartoukh

- Beam dynamics:

- DA:

- computation for the new configuration. In case, use of nonlinear correctors?

M. Giovannozzi

- Beam-beam:

- Injection tune acceptable?
- Transient behaviour when injecting second beam (collisions with injection oscillations)?
- Is separation needed?
- Spectrometer compensators?

W. Herr

Feedback from all LOC members!!!

Machine commissioning with collisions at 450 GeV: deadlines

- LTC meeting on July 5th scheduled to discuss the preliminary results.
- Tentative agenda:
 - presentation of potential optics configurations -> MG
 - minimum required collimator settings -> Ralph Assmann
 - aspects related to the beam dump -> Brennan Goddard
 - operation mode -> Mike Lamont
- In view of the LTC presentation, a meeting next week should be organised to present the preliminary results.