

Survey,Collective effects and thermal studies

LHC coll study group

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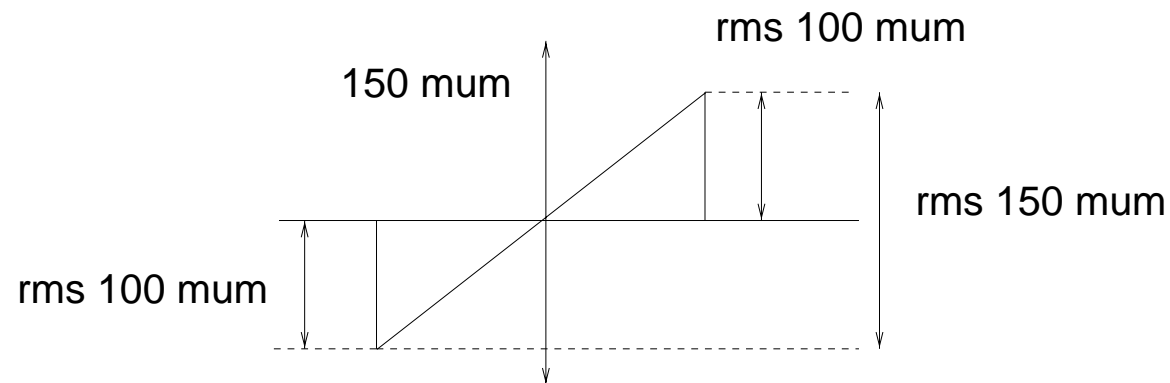
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Survey - meeting J.P.Quesnel, C.Fischer and JBJ

- rms survey default
 $t = 0 : \sigma = 150 \mu\text{m}$, truncated at 2σ
 $t = 1 \text{ yr} : \sigma = 200 \mu\text{m}$, truncated at 2σ ?
- This relatively to a ref.line drawn between quads
- This also for standard adjustment tools (which can react,...)
- Tunnel movements shall not induce significant angular misalignment
- IR3 and IR7 both very quiet (less movement than average)

Collimators

- If the mechanics allows soft adjustments, we can hope for better values



- JPQ commented on radiation levels: mounting tables for alignment in the lab and adequate structure in the tunnel required to allow straight interchange
⇒ impact on mechanical design

Collimators and collective effects

Preliminary discussion : D. Brandt, L. Vos and BJ

- a tapering is needed because of longitudinal instabilities related to the rather weak RF voltage in LHC - 91-100mm at each end (for tank inner height 50mm)
- ⇒ consequence for layout (bj, to be reviewed when more other studies done)
- unless the distance between the jaw and the wall of the tank is very small (what is 'small', to be discussed. Gerard to make an offer?), a RF contact will be needed all along the jaw).
- Daniel and Luc also noticed the presence of a vacuum port at each end of a collimator. To be reevaluated - vac. port on the tank?
- Luc suggested getter coating to simplify vacuum
- Further iteration needed with more people

Thermal Studies

Preliminary discussion : Tadeusz Kurtyka, R. Valbuena and BJ

- They would much prefer the thermal calculations to be under their control, with input from us (CERN+IHEP)
- No staff inside CERN
- But good and inexpensive collaboration with Cracow and ENS-Cachan
- Time-scale (their views):
 - Collimator construction \sim 2 years
 - \Rightarrow No need to do thermal studies+design as early as next June
 - Agreed/proposed for a further meeting with BI on this