

Tolerance on Q4 settings in IR6

- See Beam Physics Note 75, A.Verdier, M.Gyr, J.Uythoven (LBDS web pages, <http://proj-lbds.web.cern.ch/proj-lbds/documents/publications/publications.htm>)
- Q4 settings are important for the beam dump as it contributes to 23 % of the extraction kick angle
- A tolerance of ± 0.5 % on Q4 contributes 0.24 % to the beam dump extraction overshoot
 - **Interlock either via BET or BIC**
- The total overshoot – or MKD extraction angle window – for the complete system is taken to be 10 % for the aperture calculations
 - » So the 0.24 % coming from Q4 is acceptable
- The 10 % consists of 8 % from the actual MKD pulse shape
- The 10 % consists of 0.9 % from the precision of the energy
 - » 0.1 % DCCT resolution
 - » ± 0.2 % from RF frequency change (± 0.8 % possible: **need interlock, BIC!**)
 - » ± 0.2 % from integrated orbit corrector field (± 1 % possible (JW): **interlock, BIC!**)
- **Job for the MPWG to assess these interlocks**