

Changes in LHC sequence and strategy for as-built sequence

Acknowledgements (feedback and discussion): S. Fartoukh, W. Herr, J. Jowett, T. Risselada

Changes in LHC sequence - I

- Revision launched by Olav:
 - Equipment owned by RF Group is declared as RF cavity (even transverse damper...)
- Proposal
 - Define two new elements:
 - TKICKER (transverse kicker): same as KICKER, but it is not used for closed orbit correction.
 - PLACEHOLDER: same as INSTRUMENT, but generic.
 - Then the following changes will be performed:
 - **DFBs**: will be defined as PLACEHOLDER (currently are RCOLLIMATORS)

Changes in LHC sequence - II

- APWL, BCTDC, BCTFR, BPLH, BPLV, BPLX, BPTX, BQSH, BQSV, BSRTA, BSRTM, BWS: will be defined as INSTRUMENT (currently are MONITORS). This will avoid using them in closed orbit correction.
- XRPH, XRPV: will be defined as RCOLLIMATORS .
- X1FCL, X1FCR, X1ZDC001, X2ZDC001, X2ZDC002, X5ZDC001, X5ZDC002: will be defined as INSTRUMENT (currently are ECOLLIMATORS). These elements are not in beam!
- MU, ADTKH, ADTKV, MKQA, BQKH, BQKV: will be defined as TKICKER.

Proposal for the “as-built” LHC sequence

- It is not possible to maintain two independent LHC sequences in the layout database.
- In case of a non-working device or a device installed in a non-nominal slot (sector 3-4):
 1. BPM: the type will be changed to INSTRUMENT. This will avoid using it in closed orbit correction.
 2. Closed orbit corrector: the type will be changed to TKICKER. This will avoid using it in closed orbit correction.
 3. Magnets (including closed orbit corrector) affected by non-conformities: the strength in the LHC sequence will be multiplied by a flag “connected”, such as:
`MCD.34L2.B1, KNL := {0, 0, 0, 0, connected*kcd.a12b1*I.MCD},
polarity=+1;`
Hence, switching on and off the flag will select the nominal or the “as-built” sequence (apart from the type change under 1. and 2.: non simple mechanism is available for this).