

Minutes of HSS meeting held on 14/3/2018

Presents: A. Bloch, R. Bruce, H. Burkhardt, R. De Maria, D. El Khechen, S. Fartoukh, N. Fuster Martinez, H. Garcia, M. Giovannozzi, P. Hermes, M. Jebramcik, J. Jowett, E. Maclean, J. Molson, L. Nevay, S. Ogur, V. Olsen, T. Persson, F. Plassard, S. Redaelli, M. Solfaroli Camillocci, F. Van der Veken, J. Wagner.

- Report from meetings
 - General information (Massimo Giovannozzi)
 - This week there is the space charge collaboration meeting, tomorrow one day meeting on LIU-related MDs
 - IPAC18 papers, deadlines were circulated, first deadline just over. Peer reviewed papers needed by end of this week.
 - HL-LHC WP2 meeting yesterday discussed non-linear corrections as the strength of the a4 and b5 correctors package is marginal, according to the recent measurement results. It is proposed to make non-linear correctors a bit longer, while the backup plan is to increase currents, which would need stronger power supplies thus implying potential integration issues.
 - Already beam in injectors up to PS, SPS next week.
 - Crab cavity tests planned this year in SPS - preparation.
 - LHC MAD-X sequence generation for this year, based on layout database: some issues have been found, but, according to Riccardo, are mostly solved.
 - LBS meeting (Helmut Burkhardt)
 - Nothing to report.
 - Collimation status (Roderik Bruce)
 - Hardware commissioning for this year's run is in progress.
 - Details studied for beta* levelling, crossing angle.
 - New collimators including dispersion suppressor collimators.
 - OMC activities (Rogelio Tomas)
 - Setting up for this year is being reviewed.
 - Massimo says, that the OMC team will look at interaction between octupoles and dispersion bumps that will be put in operation for the first time.
 - PS studies (Alexander Huschauer)
 - Nothing to report.
 - MAD-X status (Tobias Persson)
 - Pre-release last week, but no feedback has been received so far. In principle, this new version could become the production version next week. Massimo advises not to rush to avoid jeopardising the LHC beam commissioning.
 - SixTrack status (Riccardo De Maria)
 - There had meeting a meeting last Friday. Follow up of orbit discrepancies observed.
 - Veronica is helping on consistency and documentation, as well as performance analysis and improvement.

- Riccardo was asked by IT about needs for GPU computing. Massimo asks to forward this request to the ABP computing WG so to centralise the feedback.
- LHC cycle for the 2018 ion run (Stephane Fartoukh)
 - There is a brand-new squeeze sequence, compared to last heavy ion run.
 - Complex optics and crossing scheme transition in IR2 & IR8.
 - LHCb is supposed to run only with the good polarity of their spectrometer.
 - Shape of crossing angles nearly unchanged
 - Target beta* for IR1, 2, 5 is 0.5 m, while for IR8 will be 1.5 m.
 - IR2 crossing angle polarity is planned to be changed during the run.
 - Aperture checked, and IR8 aperture was found uncritical.
 - Combined ramp and squeeze to 1m (1.5 m in IR8), then IR1, 2, 5 are squeezed to 0.5 m, while IR8 remains constant.
 - RF voltage could be a bit higher (like 8MV rather than 6MV) than usual at injection for IBS.
 - Dispersion bumps are available as knobs, and they could be used in case of problem.
 - The optics files can be found in <http://lhc-optics.web.cern.ch/lhc-optics/runII/2018/ION/> with a README.
 - Details for strategy for ALICE polarity inversion remain to be worked out.
- Update on the proton optics for 2018 (Stephane Fartoukh)
 - Only minor changes compared to the 2017 configuration.
 - The situation is the same down to 40 cm beta*, then the squeeze is extended to 25cm in IR1, and 5. Note that betamax reaches 10 km at 25 cm beta*.
 - Crossing angle is different, as well as the value of the vertical shift for IR5, which has been changed from -1.5 mm to -1.8 mm.
 - Dispersion bumps will be put in operation for the first time: they can be turned on end of ramp.