

Tentative workprogram of FS end 2010 - 2011

i.) MAD-X

- Replacement of custodian planned but no news!
- Prepare next MAD-X production version
- Mais-Ripken and Teng-Edwards parametrization for both TWISS and PTC_TWISS
- Serious bug fix found for this transformation
- Fixed Emit bug
- Clean-up of PTC modules (Piotr - Jean-Luc)
- IBS fix delayed
- Problem: different results on different platforms despite statically linked executable!
- Enforce identical results as for SixTrack (Harry Renshall)
- Remove memory leaks (Harry)
- Makefile and compiler issues (Harry)
- PTC collaboration with Etienne will continue (serious work!). Maybe yet another visit for LHC upgrade
- Installation of new fast PC for MAD-X example checking

ii.) SixTrack

- run environment shall be done by new staff
- SixTrack proper stays with me
- Finalize modifications to achieve identical results on any machine and any platform (Harry & Eric)
- Investigate new convertor using PTC flat file (collaboration Etienne and Eric)

iii.) General software support

- ITS RM
- BE-IT forum, in particular LCE group on the lxbatch cluster (administrative rights for Giovanni)
- IT needs, Fortran, NAGLIB including SMP tools
- Harry Renshall from IT will become honorary member of ABP

iv.) Possible experiments at the Tevatron

- after stop of Tevatron more difficult now!
 - experiments to be done during this year (tbd with Shiltsev, Moore and us)
- v.) PTC-Orbit
- Visit by Etienne and Sasha from KEK one month (April?) to establish PTC with time varying fields and ORBIT
 - possible partial supervision of a student/fellow to pick up ORBIT studies
- vi.) BNL visit
- March visit to BNL to do BB studies: tracking and experiments
- vii.) BB
- visit of Yuri two weeks in February, huge program in 2 weeks!
 - participation in the BB studies at the LHC
 - tracking studies for the LHC upgrade
 - BB in PTC maybe during another visit of Etienne
 - Benchmarking of SixTrack with Sasha Valishev's Lifetrac and in particular 4D & 6D BB lens
- viii.) Supervision
- PhD Student Ewen thesis on investigating the effective nonlinear model of the LHC
 - Fellow Carmen on LHC commissioning and OM
- ix.) Online Model
- Beta-beating
 - Nonlinear studies (Ewen)
 - Speed-up of the beta-beating tool using the NAGLIB SMP tools (Ewen)
 - MAD-X memory leaks are a show stopper for use in the OM (see above - Harry)
- x.) Reports
- Beta-beating in the effective model of the LHC using PTC
 - SixTrack tracking for the LHC upgrade