

DISCUSSION 1 : MONDAY AFTERNOON (16.30HRS - 18.00HRS)

Orbit Feedbacks for Synchrotron Light Sources

Discussion animators: Micha Dehler, Daniele Bulfone

The session is meant to serve as a survey giving an overview on the current status of closed orbit stabilisation and on future needs. Therefore we would be interested to have from each laboratory/project, where appropriate, transparencies on the following discussion topics.

The first general part are noise sources for the beam and requirements with the following items

- ?? Ground spectra at the different labs, e.g. function of ground humidity, natural seismic noise, man made noise by e.g. external traffic.
- ?? Transfer function between ground noise and resulting beam movement influenced by the girder design and magnet movement.
- ?? Beam coupling values, theoretical and real.
- ?? Thermal drifts due to cooling and variations in the air temperature.
- ?? Noise from the mains via e.g. the corrector power supplies requiring feedback at 50 Hz and upper harmonics.
- ?? Other sources of high frequency noise.
- ?? Resulting bandwidth requirements for feedbacks
- ?? Feedback compensating for loose and cheap design?

The second part concentrates on closed orbit feedbacks including components and is meant to cover:

- ?? Requirements for the BPM system: Sampling rates, fast interfacing, self calibration and compensation of e.g. current dependencies.
- ?? Use of photon BPMs
- ?? Power supplies: Mains rejection, bandwidth, resolution.
- ?? Performance of current systems as well features of planned systems.
- ?? Strategies: Local vs. global feedback systems
- ?? Feed forward techniques
- ?? Interference between orbit feedbacks and other feedbacks, e.g. local ones for the stabilisation of optical beam lines or experiments.