

Summary of day 2: WG2 multibunch effects

- **Harmonic cavities.**
 - Used in passive lengthening mode at MAX-II, ALS, Aladdin, SRRC, BESSY and in active either lengthening or shortening mode at NSLS VUV, Super-ACO
 - Bunch lengthening and reduction of instabilities observed in all cases.
 - Some disagreement between experimental observation of Landau damping and predictions. Is the onset of LCBI shifted and/or is the nonlinear RF simply strongly limiting the amplitude of saturation? This requires more studies, both theoretical and experimental.
 - Transient effects in the passive case can be important with unequal fill patterns (I.e. gaps.) These effects create large variations in the synchronous phase and limit the effective bunch lengthening along a bunch train.
 - Do SC cavities help significantly reduce transients? It is expected to scale with R/Q .
 - SC cavities presently under study, CEA/Elettra/SLS, will be idle, however they have spare ports for power input couplers.
- **Multibunch feedback systems :**
 - All mode DSP-based LFB design in use at DAFNE, ALS, PEP-II, Bessy-II, PLS.
 - All mode analog TFB system used at ALS, Bessy-II, SRRC.
 - Commissioning process at new rings seems easy.
 - Narrowband (RW) TFB has been tested at ESRF. Possible development of all-mode system
 - Next-generation DSP-based system being designed at Elettra for TFB and LFB.