

Crab crossing experience and noises

- Talks: Oide-san and Ohmi-san
- KEK-B crab crossing experience:
 - The crab cavities were successfully produced and installed at KEKB
 - Single crab cavity scheme is working fine, effective head-on collision was achieved.
 - Specific luminosity higher than the geometrical gain at least for low bunch current. The high current case is investigated
- Synchro-betatron resonances seen in LHC simulation for x8 bunch charge, and CC would remove it
- Noises
 - phase fluctuation faster than 1KHz is +/-0.01 deg!
 - phase noise spectrum show harmonics ~100Hz due to mechanical vibration of cavity, ~13Hz due to vibration of coaxial coupler, and 32kHz due to switching PS(?)
 - Simulation show requirement of 0.1% σ for white noise and 1% for 100 turn correlation