

# Technical Board Summary

*Preliminary*

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# Progress Reports

- **ATF2 Status (Okugi)** IP-BSM laser stabilisation is main current (crucial) issue. On-going investigation and improvements with help of company engineer. IP-BPM issues e.g. matching of reference and C BPM cavity, non-linearity of electronics. IP-BPM goal in context of goal-1. ILC versus ATF2-optics (10x1 and 1x1): tuning, tails,...
- **FONT (Burrows)** Y – Y' coupled feedback loops with 2 kickers and 2+1 stripline BPMs. Resolution  $\sim 0.3 \mu\text{m}$ . Check of effects downstream: IP and additional stripline (sine/cosine-like locations). Matched by modeling. Tracking of time shows coupling from energy oscillations (?). P2&P3 quasi degenerate  $\rightarrow$  IP angle phase  $\rightarrow$  investigate!
- **LW-OTR (Ainsworth)** Point spread function method for sub-micron resolution spot size measurement, by unfolding smoothing effect from Gaussian distribution. Quad scans  $\rightarrow$  13.5 pm vertical emittance. Optimization of analysis based on spring 2013 data. Plan publication. Systematic studies, including effects of non Gaussian tails.
- **Cavity Compton (Delerue, Omori)** Four-mirror Fabry-Perot cavities (Japan and France) for improved stability. Omori: 4000 finesse, issue of optical properties and mirrors for high power (small power losses cause heating) under study. Delerue: new laser, amplification and mirror improvements, 40 kW power stored (81kW at LAL), study of long term behavior, lifetime measurement from Compton, see IBS effect
- **GM feedback (J r mie)** Limited sensitivity. New correlation method introduced to take jitter better into account. Long term project, mainly offline analysis and simulation challenges. GM sensors currently planned at KEK until March 2016.

# Proposals

- **Halo collimation studies by IFIC and LAL (Faus-Golfe)** Realism of analytic wakefield calculation OK even for relative comparison, remaining wakefield after retracting collimator, halo reemission from halo interception, halo generation drivers and possible reduction,...
- **Two octupoles and QD0 for the ultra-low  $\beta$  optics by CERN (Marin)** Alignment of octupoles, 1 spare FFTB mover available, an additional one would be needed, simulate also possibility to correct octupole errors more generically, not just those from measurements now in optics deck, weight of hybrid QD0, timescale, simulate experimental tuning procedure with octupoles, tail folding,...
- **A new OTR/ODR beam size monitor for future linear colliders at ATF2 beam line by KEK, CERN and RHUL (Aumeyr)** appropriateness of shift requests for installation and for commissioning, what beam sizes expected to be measured, OTR/ODR combined target, same teams are developing and installing, goal of low/high intensity and scalability to replace LW, instruments between installation and final usage, bunch length?,...
- **Wake Free Steering (Kim, Snuverink, Latina)** BPM resolutions, WFS/DFS compatible orbit, WSF/1-1 in ATF2 simulation ?, jitter subtraction from incoming orbit, emittance improvement after correcting other effects, experimental procedures,...
- **PoP experiment on beam loading for truly conventional positron source at ATF injector (Urakawa)** to be presented tomorrow...