

Feedback systems for FCC-ee

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In this presentation some preliminary considerations on the feedback systems for FCC-ee are developed. Bunch-by-bunch feedback systems have been designed in the last years for other e+/e- collider like PEP-II, KEKB, DAFNE, SuperB and SuperKEKB. In all these cases, similar approaches have been implemented, even if some design variations have been suitable or necessary for different reasons. Generally speaking all these feedback systems are based on the concept that the barycenter of each bunch move with harmonic motion around the equilibrium point in three planes (L,H,V). The feedback cope with the forcing excitations by producing damping correction for each individual bunch. This is possible managing every single bunch by a dedicated processing channel in real time. For FCC-ee the very high number of stored bunches requests for the feedback systems much more power in term of processing capability. Also the ring length (80-100 Km) should be considered and could ask for a more effective strategy for the feedback system design.

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