

Cavity design approaches and HOM damping for FCC-ee

Tuesday 30 May 2017 09:10 (20 minutes)

In the design study of the FCC-ee an RF cavity system is required to provide the necessary accelerating voltage for the four operating modes of the FCC-ee, i.e. Z, W, H and tt-bar. Based on the preliminary studies, a single design that can serve all four setups is not feasible. The H and tt-bar systems are two demanding cases that are characterized by high accelerating voltage of up to 10 GV. This paper will focus on the cavity design for the Higgs modes of operation. Higher order mode (HOM) couplers are included to assess the damping efficiency and the optimum placement on the cavity endgroup.

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Session Classification: RF