



Contribution ID: 265

Type: **Poster (one author must be in person)**

Wakefields of the FCC-ee collimation system

Thursday, 8 June 2023 17:00 (1 minute)

The purpose of this paper is to calculate the longitudinal and transverse wakefields of the FCC collimators by using the electromagnetic codes ECHO3D and IW2D. We cross-checked our results using CST particle studio for long bunches, and found them to be in good agreement. The obtained results show that the collimators give one of the highest contributions to the overall FCC-ee wake potentials. Using the code PyHEADTAIL, we have found that the presence of the geometric wakefield of the collimators leads to the occurrence of transverse mode coupling instability (TMCI) at a significantly lower bunch population as compared to that of all other contributions and solutions to reduce this geometric term must be found.

Primary authors: Dr CARIDEO, Emanuela (Sapienza Università e INFN, Roma I (IT)); Prof. MIGLIORATI, Mauro (Sapienza University of Rome and INFN, Roma I); Dr ZOBOV, Mikhail (INFN-LNF); Dr BEHTOUEI, Mostafa (INFN-LNF)

Presenter: Dr BEHTOUEI, Mostafa (INFN-LNF)

Session Classification: Poster session and Wine & cheese

Track Classification: Accelerators posters