



Contribution ID: 58

Type: **Oral presentation (by invitation only)**

## Single-bunch instabilities

*Tuesday 31 May 2022 11:20 (15 minutes)*

Collective effects are very important for the FCC-ee collider due to very extreme parameters, such as the high beam current. Taking into account the updated impedance model, new results of beam dynamics simulations for FCC-ee will be presented. We will analyse the longitudinal microwave instability threshold studying bunch length and energy spread versus beam current, and TMCI, transverse mode coupling instability, by means of PyHEADTAIL. We also review the TMCI threshold by considering the variation of the chromaticity. Finally we will discuss the effect of the bunch-by-bunch feedback system on the TMCI threshold.

**Primary author:** CARIDEO, Emanuela (Sapienza Universita e INFN, Roma I (IT))

**Co-authors:** ZOBOV, Mikhail (INFN LNF); ZIMMERMANN, Frank (CERN); MIGLIORATI, Mauro

**Presenter:** CARIDEO, Emanuela (Sapienza Universita e INFN, Roma I (IT))

**Session Classification:** FCC-ee accelerators

**Track Classification:** FCC-ee accelerators