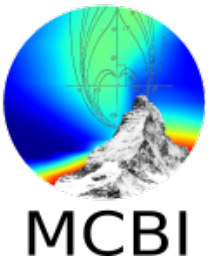

Contribution ID: **76** Type: **not specified**

* A new code for beam-ion interaction in electron rings

Tuesday 24 September 2019 18:30 (10 minutes)

The beam-ion interaction is one of the critical issues leading to beam phase space distortion, emittance growth and collective instability in electron rings, especially at the first beam commissioning state. To have a clear picture on the evolution of beam and ion in the rings with various filling patterns and different type of gas, a multi-ion multi-beam code model is developed to depict the basic process in detail, where the interaction between ion and beam is described by the Bassetti-Erskine model. The HEPS lattice proposed by IHEP will be used as a demonstration to show the both the effects of fast ion instability and ion-trapping phenomena. Due to the lack of self-consistence of the Bassetti-Erskine equation, for the further study, more effort will be focused on the self-consistent particle-in-cell solver development.

Author: LI, chao (IHEP)

Presenter: LI, chao (IHEP)

Session Classification: Poster Session