



Contribution ID: 315

Type: Talk

[334] Electron cloud effects in hadron colliders

Thursday 24 August 2017 11:30 (15 minutes)

The beam in high-energy accelerators generally causes electron production, through rest gas ionization or photoelectrons generated by the beam synchrotron radiation. Under certain conditions, the acceleration of such electrons in the field of the beam can lead to the build-up of a dense electron cloud, with several detrimental effects for machine operation. Electron cloud effects posed significant challenges to the operation of the LHC in the past few years. When designing future colliders, such as the FCC, it is thus crucial to identify the necessary conditions to mitigate electron clouds. In this contribution electron cloud build-up and effects are reviewed, and dedicated results for the FCC design study are presented.

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Session Classification: Nuclear, Particle-and Astrophysics (TASK-FAKT)

Track Classification: Nuclear, Particle- and Astrophysics (TASK - FAKT)