



Contribution ID: 164

Type: **not specified**

FCC-hh protection absorbers and the dump

Tuesday 10 April 2018 16:20 (20 minutes)

The FCC proton beams pose a severe challenge for the robustness of the beam dump and respective protection devices. Depending on the local beta-function, already a single 50 TeV bunch could induce damage in typical absorber materials currently employed in the LHC machine (e.g. Graphite or carbon composites). In order to safely absorb the FCC beams in a LHC-like dump or beam-intercepting devices, the beams need to be sufficiently diluted across the absorber front face. This study presents the baseline design of the FCC-hh dump core and protection devices and quantifies the expected energy deposition and temperatures. The implications for the extraction system design and consequences of different failure scenarios are discussed.

Author: LECHNER, Anton (CERN)

Co-authors: SANZ ULL, Alejandro (Eindhoven Technical University (NL)); PERILLO MARCONE, Antonio (CERN); GODDARD, Brennan (CERN); RENNERT, Elisabeth (Vienna University of Technology (AT)); CALVIANI, Marco (CERN); VARASTEHI, Mohammad (CERN); Dr GILARDONI, Simone (CERN); BARTMANN, Wolfgang (CERN)

Presenter: LECHNER, Anton (CERN)

Session Classification: FCC-hh injector

Track Classification: EuroCirCol