Contribution ID: **94**   Type: **Oral**

Surviving an asynchronous beam dump

Wednesday 13 April 2016 09:10 (15 minutes)

A single FCC proton bunch at 50 TeV carries almost 1 MJ of energy, with a transverse beam sigma of typically 0.1 mm. The transverse energy density is around a factor 20 above the HL-LHC design values, which themselves already pose a serious engineering and beam physics challenge when designing protection systems to prevent damage to the accelerator in the event of an asynchronous firing of the LHC beam dump kickers. In this paper the specific challenges are explored for designing the FCC-hh beam dump dump system to enable an asynchronous beam dump to be survived. Possible approaches are outlined and the most interesting new directions for study and simulation are discussed in the context of the required performance aspects.

Author: GODDARD, Brennan (CERN)

Presenter: GODDARD, Brennan (CERN)

Session Classification: FCC-hh Beam dump concept

Track Classification: Accelerators