

A high granularity hadronic calorimeter for multi TeV jets

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We discuss performance requirements for future hadronic calorimeters in the context of reconstruction of multi-TeV objects (jets, particles) at a 100 TeV collider. For this study, we use a Geant4 simulation of the detector response of the SiFCC detector which is designed to study hadronic jets up to 33 TeV in transverse momentum. We show response and energy resolutions for single particles and hadronic jets in the energy range from 2 GeV to 33 TeV. In addition, we show how changes in lateral cell segmentation can affect jet-shape and jet-substructure variables used for reconstruction of highly boosted jets.

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