

APR18-2018-000346

Abstract for an Invited Paper
for the APR18 Meeting of
the American Physical Society

Calorimetry at the HL-LHC

ALBERTO BELLONI, University of Maryland

The Large Hadron Collider (LHC) is currently providing proton-proton collisions at the world's highest center-of-mass energy. The High-Luminosity LHC (HL-LHC), scheduled to start in 2026, is planned to collect an integrated luminosity in excess of $3/\text{ab}$, and provide the opportunity to perform precise measurements of Higgs properties, and search for new physics beyond the standard model. Calorimeters are pivotal elements of the detectors that will exploit these data samples. The running conditions, particularly the increase in average number of proton-proton collisions per bunch crossing (pile-up) and in the rate at which events are recorded, pose stringent constraints on their performance requirements. I will present an overview of the HL-LHC upgrade plans for the ATLAS and CMS calorimeters, with a focus on how their designs meet the challenges of HL-LHC operations, and show some of the ongoing RD that demonstrates that they will satisfy the requirements imposed by the HL-LHC physics program.