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Machine learning corrections to EM showers in the CMS HGCAL
CHRISTOS PAPAGEORGAKIS, SARAH ENO, University of Maryland, College Park, CMS COLLABORATION COLLABORATION — High granularity calorimeters, such as the CMS HGCAL, present new challenges that require novel techniques and approaches. While analytic algorithms to correct the energy measurement for inoperative or saturating readout channels have been developed for other calorimeters, the CMS HGCAL's non-projective geometry utilizing two different kinds of active material with hexagonal and trapezoidal channel segmentation limit this approach's precision. In this talk, we show that Machine learning allows a more precise correction for these effects, and reduces the constant term by 60% compared to the 35% reduction obtained using an averaging algorithm.

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