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Improvement of the energy resolution for neutral hadrons in highly granular calorimeters based on a neural network approach

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The technology of highly granular calorimeters is one of the main innovations that will be implemented in planned experiments on future colliders. This work shows an algorithm for the improvement of energy resolution in highly granular calorimeters based on a machine learning technique. An artificial neural network, which helps to connect calorimeter observables, was trained and tested. The study was performed on a simulated version of the detector with highly granular calorimeters for single hadrons with energies from 1 to 120 GeV.

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