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R&D of the Energy Calibration for the SiD EM Calorimeter based on Machine Learning

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We have developed an energy calibration method for the ILC SiD EM calorimeter (ECAL), a sampling calorimeter consisting with 30 Silicon-Tungsten layers, using machine learning.
Our approach uses a deep neural network (DNN) in a regression problem to obtain the energy of the incident particle from the list of measured energy deposits (energy calibration).
The DNN is used to express the non-linear detector response and to get the particle ID information, electron or photon, in a particle-depend calibration.
We report on the status of the R&D and future plans.

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