

Using DNNs and Keras for the W mass precise measurement

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The precise measurement of the W boson mass is an important task from both experimental and theoretical point of view. One of the key observables for the measurement is called hadronic recoil. It allows to reconstruct the W pT spectrum based on the calorimeter response to the particle flow objects that compensate the W pT. Due to the calorimeter resolution effects the hadronic recoil also introduces a considerable uncertainty into the result.

The usage of deep neural networks to calibrate the hadronic recoil allows to improve the the precision in both W mass and W pT spectrum measurement.

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Classification de thématique: ML for analysis : Application of Machine Learning to analysis, event classification and fundamental parameters inference