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Performance of the particle flow algorithm in CMS

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The aim of the CMS particle flow event-reconstruction algorithm is to identify and reconstruct individually each particle arising from the LHC proton-proton collision, by combining the information from all subdetectors. The resulting particle-flow event reconstruction leads to an improved performance for the reconstruction of jets and MET, and for the identification of electrons, muons, and taus. The 7 TeV jet data, as well as leptons from J/Psi, W and Z Boson are used to finalize the commissioning of the particle-flow algorithm. The efficient reconstruction and identification of photons, charged and neutral hadrons, muons and electrons made possible by the versatility of the CMS apparatus, are shown to perform as expected up to a high level of precision. Results on particle-based jets and missing transverse energy, as well as on muons and electrons obtained through the reconstruction of standard candles are shown.

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