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Measurement of the energy density as a function of pseudorapidity in proton-proton collisions at root s=13 TeV

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Abstract

A measurement of the energy density in proton-proton collisions at a centre-of-mass energy of sTeV is presented. The data have been recorded with the CMS experiment at the LHC during low luminosity operations in 2015. The energy density is studied as a function of pseudorapidity in the ranges -6.6<<-5.2 and 3.15<=<5.20. The results are compared with the predictions of several models. All the models considered suggest a different shape of the pseudorapidity dependence compared to that observed in the data. A comparison with LHC proton-proton collision data at s=0.9 and 7 TeV confirms the compatibility of the data with the hypothesis of limiting fragmentation.

Keywords

KeyWords Plus: INELASTIC EP SCATTERING; LHC; ANNIHILATION; MODEL

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