Paper (2)

عنوان البحث:

Pseudorapidity distribution of charged hadrons in proton–proton collisions at $\sqrt{s} = 13\ TeV$

توزيع الكاذب للهادرونات المشحونة في تصادم البروتون والبروتون عند $\sqrt{s} = 13\ TeV$

Journal:

***Authors*:** *CMS Colloboration (M.A. Mahmoud et. al)*
***Published in*:** *Physics Letter B 751 (2015) 143–163*
Impact factor: *4.95*
ISSN: *0370-2693*

Abstract:

The pseudorapidity distribution of charged hadrons in pp collisions at s = 13 TeV is measured using a data sample obtained with the CMS detector, operated at zero magnetic field, at the CERN LHC. The yield of primary charged long-lived hadrons produced in inelastic pp collisions is determined in the central region of the CMS pixel detector ($|\eta| < 2$) using both hit pairs and reconstructed tracks. For central pseudorapidities ($|\eta| < 0.5$), the charged-hadron multiplicity density is $dN_{ch} / d\eta |_{|\eta|< 0.5} = 5.49 \pm 0.01$ (stat) $\pm$ 0.17 (syst), a value obtained by combining the two methods. The result is compared to predictions from Monte Carlo event generators and to similar measurements made at lower collision energies.