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Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics [Open Access](#)  
Volume 799, 10 December 2019, Article number 135049

## Pseudorapidity distributions of charged hadrons in xenon-xenon collisions at

$s_{NN}=5.44$  TeV (Article) [Open Access](#)

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### Abstract

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Measurements of the pseudorapidity distributions of charged hadrons produced in xenon-xenon collisions at a nucleon-nucleon centre-of-mass energy of  $s_{NN}=5.44$  TeV are presented. The measurements are based on data collected by the CMS experiment at the LHC. The yield of primary charged hadrons produced in xenon-xenon collisions in the pseudorapidity range  $|\eta|<3.2$  is determined using the silicon pixel detector in the CMS tracking system. For the 5% most central collisions, the charged-hadron pseudorapidity density in the midrapidity region  $|\eta|<0.5$  is found to be  $1187\pm 36$  (syst), with a negligible statistical uncertainty. The rapidity distribution of charged hadrons is also presented in the range  $|y|<3.2$  and is found to be independent of rapidity around  $y=0$ . Existing Monte-Carlo event generators are unable to simultaneously describe both results. Comparisons of charged-hadron multiplicities between xenon-xenon and lead-lead collisions at similar collision energies show that particle production at midrapidity is strongly dependent on the collision geometry in addition to the system size and collision energy. © 2019 The Author(s)

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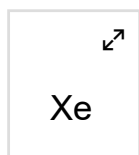
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#### Funding text

We congratulate our colleagues in the CERN accelerator departments for the excellent performance of the LHC and thank the technical and administrative staffs at CERN and at other CMS institutes for their contributions to the success of the CMS effort. In addition, we gratefully acknowledge the computing centers and personnel of the Worldwide LHC Computing Grid for delivering so effectively the computing infrastructure essential to our analyses. Finally, we acknowledge the enduring support for the construction and operation of the LHC and the CMS detector

provided by the following funding agencies: BMBWF and FWF (Austria); FNRS and FWO (Belgium); CNPq , CAPES , FAPERJ , FAPERGS , and FAPESP (Brazil); MES (Bulgaria); CERN ; CAS , MOST , and NSFC (China); COLCIENCIAS (Colombia); MSES and CSF (Croatia); RPF (Cyprus); SENESCYT (Ecuador); MoER , ERC IUT , and ERDF (Estonia); Academy of Finland , MEC , and HIP (Finland); CEA and CNRS/IN2P3 (France); BMBF , DFG , and HGF (Germany); GSRT (Greece... View all 

ISSN: 03702693

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