Document details

‹ Back to results | 1 of 1

Export Download Print E-mail Save to PDF Add to List More... ›

View at Publisher

European Physical Journal C Open Access
Volume 79, Issue 11, 1 November 2019, Article number 893

Measurement of the average very forward energy as a function of the track multiplicity at central pseudorapidities in proton-proton collisions at √s=13TeV (Article) (Open Access)

Sirunyan, A.M.[a], Tumasyan, A.[a], Adam, W.[b], Ambrogi, F.[b], Bergauer, T.[b], Brandstetter, J.[b], Dragicevic, M.[b], Erö, J.[b], Del Valle, A.E.[b], Flechl, M.[b], Frühwirth, R.[b], Jeitler, M.[b], Krammer, N.[b], Krätschmer, I.[b], Liko, D.[b], Madlener, T.[b], Mikulec, I.[b], Rad, N.[b], Schieck, J.[b], Schöfbeck, R.[b], Spanring, M.[b], Spitzbart, D.[b],

View additional authors

[a]Yerevan Physics Institute, Yerevan, Armenia
[b]Institut für Hochenergiephysik, Wien, Austria
[c]Institute for Nuclear Problems, Minsk, Belarus

View additional affiliations

Abstract

View references (35)

The average total energy as well as its hadronic and electromagnetic components are measured with the CMS detector at pseudorapidities - 6.6 < η< - 5.2 in proton-proton collisions at a centre-of-mass energy s=13TeV. The results are presented as a function of the charged particle multiplicity in the region | η| < 2. This measurement is sensitive to correlations induced by the underlying event structure over a very wide pseudorapidity region. The predictions of Monte Carlo event generators commonly used in collider experiments and ultra-high energy cosmic ray physics are compared to the data. All generators considered overestimate the fraction of energy going into hadrons. © 2019, CERN for the benefit of the CMS collaboration.

SciVal Topic Prominence

Topic: Collisions | Jets | Proton–proton collisions

Prominence percentile: 99.939

Funding details

Funding sponsor	Funding number	Acronym
California Earthquake Authority		CEA
European Regional Development Fund		FEDER
Ministerstwo Nauki i Szkolnictwa Wyższego		MNiSW
Joint Institute for Nuclear Research		JINR

Funding sponsor	Funding number	Acronym
Pakistan Atomic Energy Commission	Pakistan	PAEC
Welch Foundation See opportunities↗	C-1845	
National Science and Technology Development Agency	Thailand	NSTDA
	752730,675440,765710	
Fundacja na rzecz Nauki Polskiej See opportunities by FNP↗		FNP
Hispanics in Philanthropy		HIP
Korea Research Council for Industrial Science and Technology		ISTK
California Department of Fish and Game		DFG
Comisión Asesora de Investigación Científica y Técnica	MDM-2015-0509	CAICYT
Secretaría de Estado de Investigación, Desarrollo e Innovación		SEIDI
Qatar National Research Fund		QNRF
National Research Foundation		NRF
Ministry of Science ICT and Future Planning		MSIP
Politechnika Poznańska		PUT
Canadian Mathematical Society See opportunities by CMS↗		CMS
A.G. Leventis Foundation		
U.S. Department of Energy See opportunities by USDOE↗		USDOE

Extraction and validation of a new set of CMS pythia8 tunes from underlying-event measurements

Sirunyan, A.M. , Tumasyan, A. , Adam, W.
(2020) European Physical Journal C

View all related documents based on references

Find more related documents in Scopus based on:

Authors ›

Funding sponsor	Funding number	Acronym
Academy of Finland		
Coordenação de Aperfeiçoamento de Pessoal de Nível Superior		CAPES
Ministerio de Educación y Cultura		MEC
Türkiye Atom Enerjisi Kurumu		TAEK
Fonds pour la Formation à la Recherche dans l'Industrie et dans l'Agriculture		FRIA
Research Promotion Foundation	Cyprus	RPF
National Sleep Foundation		NSF
Science and Technology Facilities Council See opportunities by STFC↗		STFC
Austrian Science Fund		FWF
National Academy of Sciences of Ukraine		NASU
Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional		CINVESTAV
Istituto Nazionale di Fisica Nucleare		INFN
Department of Atomic Energy, Government of India		DAE
Department of Science and Technology, Ministry of Science and Technology See opportunities by DST↗		DST
Conselho Nacional de Desenvolvimento Científico e Tecnológico		CNPq
Russian Foundation for Basic Research		RFBR

Funding sponsor	Funding number	Acronym
Maryland Ornithological Society See opportunities by MOS↗		MOS
Belgian Federal Science Policy Office		BELSPO
Center for African Studies		CAS
Departamento Administrativo de Ciencia, Tecnología e Innovación (COLCIENCIAS)		COLCIENCIAS
Alexander von Humboldt-Stiftung See opportunities↗		
Ministerstvo Školství, Mládeže a Tělovýchovy		MÅ MT
European Commission See opportunities by EU ↗		EU
CERN		
	Serbia	
	NSC	
Fonds Wetenschappelijk Onderzoek		FWO
Santa Fe Institute		SFI
Ministry of Education and Science		MES
Louisiana Academy of Sciences		LAS
National Research Center "Kurchatov Institute"		NRC KI
Beijing Municipal Science and Technology Commission	Z181100004218003	
Secretaría de Educación Superior, Ciencia, Tecnología e Innovación		SENESCYT
State Fund for Fundamental Research of Ukraine	Ukraine	SFFR

Funding sponsor	Funding number	Acronym
Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro		FAPERJ
CS Fund	Croatia	CSF
Fuel Cell Technologies Program		FCT
Ministry of Education - Singapore		MOE
Consejo Nacional de Ciencia y Tecnología, Paraguay		El CONACYT
Ministry for Business Innovation and Employment		MBIE
Weston Havens Foundation		
Institute for Research in Fundamental Sciences		IPM
Missouri University of Science and Technology	Taipei	MST
Federación Española de Enfermedades Raras		FEDER
Fundação de Amparo à Pesquisa do Estado do Rio Grande do Sul		FAPERGS
Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie		BMBWF
Human Growth Foundation		HGF
Fundação de Amparo à Pesquisa do Estado de São Paulo See opportunities by FAPESP ↗		FAPESP
Secretaría de Educación Pública		SEP
Fonds De La Recherche Scientifique - FNRS		FNRS
Ministry of Education and Science	3.2989.2017	

Funding sponsor	Funding number	Acronym
National Natural Science Foundation of China		NSFC
Bundesministerium für Bildung und Forschung		BMBF
University of Minnesota		UM
Rochester Academy of Science		RAS
	30820817	
Chulalongkorn University		CU
Agentschap voor Innovatie door Wetenschap en Technologie		IWT
European Regional Development Fund		FEDER
Ministry of Education, Youth and Science		MEYS
	2012/07/E/ST2/01406,2014/13/B/ST2/02543,2014/14/M/ST2/00428,2014/15/B/ST2/03998,2015/19/B/ST2/02861	
General Secretariat for Research and Technology	Hungary	GSRT
Magyar Tudományos Akadémia		MTA
Nemzeti Kutatási, Fejlesztési és Innovációs Alap	125105,128713,128786,124850,129058,123842,123959,124845	NKFIA

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 centres 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, PUT and ERDF (Estonia); Academy of Finland, MEC, and HIP (Finland); CEA and CNRS/IN2P3 (France); BMBF, DFG, and HGF (Germany); GSRT (Greece); NKFIA... View all

ISSN: 14346044
Source Type: Journal
Original language: English

DOI: 10.1140/epjc/s10052-019-7402-3
Document Type: Article
Publisher: Springer New York LLC