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Jet Shapes of Isolated Photon-Tagged Jets in Pb-Pb and pp Collisions at sNN =5.02 TeV (Article) (Open Access)

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Abstract

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The modification of jet shapes in Pb-Pb collisions, relative to those in pp collisions, is studied for jets associated with an isolated photon. The data were collected with the CMS detector at the LHC at a nucleon-nucleon center-of-mass energy of 5.02 TeV. Jet shapes are constructed from charged particles with track transverse momenta (pT) above 1 GeV/c in annuli around the axes of jets with pTjet>30 GeV/c associated with an isolated photon with pTγ>60 GeV/c. The jet shape distributions are consistent between peripheral Pb-Pb and pp collisions, but are modified for more central Pb-Pb collisions. In these central Pb-Pb events, a larger fraction of the jet momentum is observed at larger distances from the jet axis compared to pp, reflecting the interaction between the partonic medium created in heavy ion collisions and the traversing partons. Funded by SCOAP 3 .

SciVal Topic Prominence

Topic: Collisions | Jets | Jet quenching

Prominence percentile: 97.910

Indexed keywords

Engineering controlled terms: Binary alloys | Colliding beam accelerators | Heavy ions | Photons | Vanadium alloys

Engineering uncontrolled terms: Center-of-mass energies | CMS detectors | Heavy ion collision | Isolated photons | Nucleon-nucleon | Pb-Pb collisions | Shape distribution | Transverse momenta

Engineering main heading: Lead alloys

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Chang, N.-B. , Tachibana, Y. , Qin, G.-Y.
(2020) Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics

A complete set of in-medium splitting functions to any order in opacity

Sievert, M.D. , Vitev, I. , Yoon, B.
(2019) Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics

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Viinikainen, J.
(2019) Proceedings of Science

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Sirunyan, A.M. , Tumasyan, A. , Adam, W.
(2018) Physical Review Letters

Study of jet quenching with isolated-photon+jet correlations in PbPb and pp collisions at sNN=5.02 TeV

Sirunyan, A.M. , Tumasyan, A. , Adam, W.
(2018) Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics

Study of Jet Quenching with Z+jet Correlations in Pb-Pb and pp Collisions at s NN=5.02 TeV

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(2017) Physical Review Letters

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