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Observation of azimuthal angular decorrelation in dijet photoproduction in ultraperipheral lead-lead collisions at 5.02 TeV with the CMS experiment

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Angular correlations present in dijet photoproduction are studied, for the first time, using ultraperipheral lead-lead collisions at a nucleon-nucleon center-of-mass energy of 5.02 TeV. The second moment of the angular distribution, $\langle \cos(2\Phi) \rangle$, where Φ is the angle between the vector sum \vec{Q}_T and the vector difference \vec{P}_T of the transverse momentum vectors of the jets, is measured as a function of Q_T . This analysis amounts to the first, yet essential, step towards the extraction of the Wigner or Husimi gluon distributions, which are believed to be the most fundamental gluon distributions. It also introduces new techniques for the analysis of jet angular correlations in exclusive dijet events at colliders.

Present via

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