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First measurement of the $\gamma\gamma \to \tau\tau$ production in PbPb collisions with the CMS experiment

Wednesday 4 May 2022 09:40 (20 minutes)

Ultraperipheral lead-lead collisions at $\sqrt{s_{\mathrm{NN}}} = 5.02$ TeV produce very large photon fluxes that fundamental quantum-mechanical processes can be observed. In this presentation, the first observation of the τ lepton production in ultraperipheral PbPb collision data collected by CMS at LHC is reported. This measurement paves the way for the determination of the anomalous electromagnetic moments of the τ lepton, which currently is poorly constrained.

Submitted on behalf of a Collaboration?

Yes

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