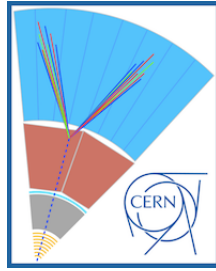


Searching for long-lived particles at the LHC and beyond: Ninth workshop of the LLP Community



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Scouting for displaced di-muon resonances with CMS

Wednesday 26 May 2021 18:45 (12 minutes)

A search for displaced dimuon resonances is performed using proton-proton collisions at a center-of-mass energy of 13 TeV, collected by the CMS experiment at the LHC in 2017–2018, corresponding to an integrated luminosity of 101 fb^{-1} . The data sets used in this search were collected using a dedicated dimuon trigger stream with low transverse momentum thresholds, recorded at high rate by retaining a reduced amount of trigger-level information, in order to explore otherwise inaccessible phase space at low dimuon mass and non-zero displacement from the interaction point. We find no significant excess, and use the data to set stringent constraints on a wide range of mass and lifetime hypotheses for models of physics beyond the standard model where a Higgs boson decays to a pair of long-lived dark photons, or where a long-lived scalar resonance arises from the decay of a B hadron.

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Session Classification: Lightning round / new ideas