

Search for Resonant Production of Muon Jets

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We present an inclusive, signature-based search for groups of collimated muons (muon jets) designed to achieve high sensitivity to a broad class of models predicting such signatures and performed using data collected by the CMS experiment. The analysis searches for production of new light bosons which, depending on their mass, may have substantial branching ratio for decays into pairs of muons. The results are interpreted in a model independent fashion as well as in the context of several benchmark scenarios: one of them is motivated by the Supersymmetry with hidden dark sector where cascades of particle decays include light dark photons and another one by the Next-to-Minimal Supersymmetric Standard Model (NMSSM) predicting the SM-like Higgs boson decay to a pair of light CP-odd Higgs bosons.

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