

Long Lived Light Supersymmetric Neutralinos

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We have investigated the search sensitivity to long lived light neutralinos, with masses below a few GeV down to 10s of MeV, at various forward detectors. They can be produced at the LHC via rare decays of standard mesons or via rare Z-boson decays. The neutralinos decay to a lighter meson plus a charged lepton, which can be observed. We have studied a large set of proposed experiments: ANUBIS; AL3X; CODEX-b; Faser1,2; MATHUSLA, MOEDAL-MAPP1,2; SHiP; but also ATLAS.

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