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Particle Physics at LPTHE

Mardi 5 Décembre 2023, 14 :00
LPTHE, Library and Zoom (link in the comments)
Domaines : hep-ph

Titre : *Updates on Blazar-Boosted Dark Matter*

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Résumé : *Blazars are Active Galactic Nuclei shooting jets of relativistic particles in the direction of the Earth. Due to their powerful and peculiar features, blazars are natural laboratories to probe extreme physics. For instance, the ultra-high-energy protons and electrons in the extremely powerful jets of blazars can boost to very high-energy via elastic collisions the dark matter (DM) particles in the surroundings of the source. The blazar-boosted DM flux at Earth may be sizeable and relevant to access direct detection for DM particle masses lighter than 1 GeV, both with target nuclei and/or electrons. Concentrating on the source TXS 0506+056 – from which IceCube reported evidence for a high-energy neutrino flux – I will review the limits that can be imposed on the DM-nucleon and DM-electron scattering cross sections given the null detection at terrestrial facilities.*