

Vector SIMP dark matter with approximate custodial symmetry

Friday, 11 October 2019 09:30 (30 minutes)

Strongly Interacting Massive Particles (SIMPs) have recently been proposed as light thermal dark matter relics. Here we consider an explicit realization of the SIMP mechanism in the form of vector SIMPs arising from an $SU(2)_X$ hidden gauge theory where the approximate custodial symmetry determines comparable but split masses for $SU(2)_X$ gauge bosons. We will discuss the various several ways of equilibrating the dark and visible sectors in this setup and present in detail the current constraints and projections from colliders and direct detection experiments.

Presenter: PIERRE, Mathias (IFT UAM-CSIC)

Session Classification: Session 11