Contribution ID: **193**   Type: **not specified**

Probing Atomic Dark Matter using Simulated Galactic Subhalo Populations

Monday 8 May 2023 17:30 (15 minutes)

Atomic dark matter (ADM) is a simple extension to the Standard Model that is motivated by considerations in both particle and astrophysics. ADM can alter structure formation on subgalactic scales due to its ability to dissipate energy through cooling mechanisms, but is also one realisation of a possible complex dark sector. These dark sectors have been previously studied as a solution to the little hierarchy problem. Recently the first N-body simulations were completed, studying the effects of cold dark matter with a ADM subcomponent (6%) and are only beginning to be analysed. In this talk I present how the dissipative nature of ADM affects both the distribution and structure of subhalos in a Milky Way analogue, and outline how we may hope to constrain and probe the ADM parameter space.

Author: GEMMELL, Caleb (University of Toronto)

Presenter: GEMMELL, Caleb (University of Toronto)

Session Classification: BSM VI

Track Classification: BSM