Contribution ID: **2** Type: **not specified**

Dark Matter and Baryogenesis from Long-Lived Particles in the Visible Sector

Friday 19 May 2023 11:40 (25 minutes)

A minimal extension of the standard model is presented that includes a long-lived fermion with weak-scale mass and an O(GeV) fermionic dark matter candidate. Decays of a TeV-scale colored scalar in a radiation-dominated phase bring the former to a thermal abundance while also producing dark matter. The long-lived fermion then drives a period of early matter domination and decays to reheat the universe and also generates a baryon asymmetry. The allowed parameter space of this model can be probed by proposed long-lived particle searches as well as next-generation neutron-antineutron oscillation experiments.

Author: ALLAHVERDI, Rouzbeh (University of New Mexico)

Presenter: ALLAHVERDI, Rouzbeh (University of New Mexico)

Session Classification: Cosmology