

Phenomenology 2021 Symposium



Contribution ID: 1227

Type: DM

Electroweak Confinement and $SU(2)_L$ Dark Matter

Tuesday, 25 May 2021 16:45 (15 minutes)

We consider how a modified cosmological history with a period of electroweak confinement could allow a WIMP dark matter candidate to escape current exclusion bounds. We consider an $SU(2)_L$ vector doublet fermionic dark matter candidate which confines with standard model fermions during this era. These composite particles interact, depleting the dark matter abundance. After these processes freeze out, the electroweak period deconfines and proceeds according to the typical cosmological timeline. We find that this scenario naturally leads to a WIMP dark matter candidate while avoiding current exclusion bounds.

Summary

Primary authors: HOWARD, Jessica N. (Department of Physics & Astronomy, UC Irvine); TAIT, Tim M.P. (Department of Physics & Astronomy, UC Irvine); Prof. TURNER, Jessica (Institute for Particle Physics Phenomenology, Department of Physics, Durham University); Dr IPEK, Seyda (Department of Physics & Astronomy, UC Irvine)

Presenters: HOWARD, Jessica N. (Department of Physics & Astronomy, UC Irvine); HOWARD, Jessica N. (University of California Irvine (US))

Session Classification: DM IV