

Composite Dark Matter with Forbidden Annihilation

Thursday, 21 August 2025 15:00 (20 minutes)

A dark matter model with QCD-like $SU(N)$ gauge symmetry and electroweakly interacting dark quarks is discussed. In this model, the lightest G-parity odd dark pion is a main component of dark matter. I will discuss the relation between the mass spectrum of dark pions and annihilation channels which mainly contribute to the relic abundance. When the masses of dark matter and heavier dark pions are degenerate, dark matter mainly annihilates into the heavier dark pions and realizes heavy dark matter whose mass is $\mathcal{O}(1-10)$ TeV. I will also discuss the Sommerfeld effect of the annihilation channels.

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