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

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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

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