

Summer Institute 2019: Flavour anomalies in B decays, light dark matter
from hidden sectors and lepton dipole moments

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Model independent analysis of MeV scale dark matter

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Recent results from several direct detection experiments have imposed severe constraints on the multi-GeV mass window for various dark matter (DM) models. However, many of these experiments are not sensitive to MeV scale DM as the corresponding recoil energies are much below the detector thresholds. In this regard, we reexamined the light scalar DM in a model-independent approach in our recent work. For such a DM, it should not be assumed that it annihilates into a pair of free quarks. Instead, it becomes necessary to determine the effective couplings of DM to hadrons and calculate the annihilation rate with hadrons in final states. In this talk, I will discuss the methodology for determining this effective coupling along with various constraints coming from cosmological and astrophysical observations.

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