APR17-2016-030064

Abstract for an Invited Paper for the APR17 Meeting of the American Physical Society

Theory and Motivations of Dark Sector Dark Matter and Forces

PHILIP SCHUSTER, SLAC National Accelerator Laboratory

We present the theory and motivations underlying "dark" or "hidden" sector dark matter and new force scenarios. Dark sector scenarios with sub-GeV mass scales have attracted particular attention in the past several years, motivated in part by findings from direct detection, satellite, and LHC experiments, as well as precision measurements. Moreover, these scenarios offer some of the simplest and least explored possibilities for dark matter. As such, sub-GeV dark sector scenarios have become the focus of a broad and growing international program of experiments.