

News from Cosmic Dark Sectors

Cosmologists are proud of the standard cosmological model that has been developed to account for a wealth of disparate features of the Universe. The model requires, though, that we postulate the existence of some collisionless dark matter and also dark energy, a negative-pressure substance. The nature of both of these dark constituents is a mystery. Moreover, as measurements have become more precise, a discrepancy has arisen between the cosmic expansion rate inferred from supernovae and that obtained by modeling large-scale-structure data. The best explanation (so far) for this "Hubble tension" is another exotic substance we refer to as "early dark energy." I will review efforts to understand these dark sectors of the Universe, focusing primarily on those related to the Hubble tension.

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Jadwin Hall, Room A-10

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Host: Paul Steinhardt