

## Cosmological Signatures of Interacting Dark Sectors

*Wednesday, 8 May 2024 14:40 (10 minutes)*

The precision of present-day cosmological measurements has enabled exploration into the characteristics of dark matter and other particles within the dark sector. As measurement precision improves, discrepancies among various datasets have emerged, suggesting a necessity to move beyond the standard  $\Lambda$ CDM model. Extensions of  $\Lambda$ CDM that incorporate interactions within the dark sector not only yield good fits to the CMB but also resolve tensions observed in cosmological data, such as the Hubble tension and discrepancies in recent Large-Scale Structure measurements of the matter power spectrum. These models of interacting dark sectors can exhibit unique cosmological signatures that can be investigated further by the upcoming generation of Large-Scale Structure surveys. I will present the observable signatures of a variety of interacting dark sector models and discuss how they may be distinguished in future spectroscopic surveys.

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**Session Classification:** Session 11