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Investigating beyond ΛCDM using the state-of-art supernova sample from the Dark Energy Survey

Friday 7 February 2025 11:00 (20 minutes)

Type Ia Supernovae act as standard candles which provide a fundamental way to probe the expansion history of the Universe. While the standard cosmological model fits current data well, uncertainty remains. This uncertainty has led to a wealth of exotic cosmological models being proposed. In my work, I constrain a variety non-standard models using the DES 5-year sample - the largest single sample of SNe Ia to date. In this talk, I will present these results. I will also discuss cosmological assumptions that appear in the main DES supernova cosmology analyses, evaluate their impact, and provide guidance on when the DES Hubble diagram can be used to test non-standard models.

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