Contribution ID: **139** Type: **not specified**

Towards a Dark Sector Model from String Theory

Tuesday 19 July 2022 15:00 (1h 20m)

I will describe a proposal for a unified dark sector model in heterotic string theory with the following features: The model-independent axion descending from the Kalb-Ramond 2-form field is identified with the dark-matter field, and the real part of a Kahler modulus field associated with the radius of one of the extra spatial dimension accounts for dark energy. The expectation value of the dilaton field is stabilized by a gaugino condensation mechanism. A dark-energy potential corresponding to a realistic low-energy scale results from some gentle tuning of the stabilized expectation value of the dilaton.

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