

Phenomenology 2020 Symposium



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A wrinkle in spacetime: searching for gravitational wave signatures of multiple hidden sectors.

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I explore the possibility of detecting gravitational waves generated by first order phase transitions in multiple dark sectors. Naturalness is taken as a sample model that features multiple additional sectors, many of which undergo phase transitions that produce gravitational waves. I examine the cosmological history of this framework and determine the gravitational wave profiles generated. These profiles are checked against projections of next generation gravitational wave experiments, demonstrating that multiple hidden sectors can indeed produce unique gravitational wave signatures that will be probed by these future experiments.

Summary

Primary author: Mr ARCHER-SMITH, Paul (Carleton University)

Co-authors: STOLARSKI, Daniel; LINTHORNE, Dylan (Carleton University)

Presenter: Mr ARCHER-SMITH, Paul (Carleton University)

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