

JOINT TUFTS/MIT COSMOLOGY SEMINAR

The Chirality of Primordial Gravitational Waves.

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Brown

In this talk I will discuss the inflationary origins and late-universe implications of a net chirality of primordial gravitational waves. In the context of string theory, the production is tied in with the mechanism behind moduli stabilization, and can lead to an observable level of gravitational waves even in small field inflation. We consider dark matter scenarios which can be easily realized in this context, and find a microphysical realization of superfluid dark matter, wherein dark quarks condense to form a superfluid, and the Higgs-mode acts as cold dark matter. Finally we discuss the bridge between the early and late universe: (p)reheating, and its implications for the chirality of primordial gravitational waves. Talk based on JCAP 1811, no. 11, 030 (2018) [arXiv:1806.05684], JCAP 1805 (2018) no.05, 003 [arXiv:1801.07255.], and work to appear.

Wednesday, December 11, 2019, 2:30 pm

Cosman Seminar Room

Center for Theoretical Physics

Building 6C, Room 6C-442

Massachusetts Institute of Technology

Refreshments at 2:00 in the same room