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Type: **Parallel talk**

Rethinking Time at the Big Bang

Thursday, 22 June 2017 14:30 (15 minutes)

I will discuss two ways in which revising the notion of time at the Big Bang will lead to testable predictions. I will then contrast these predictions against standard Λ CDM scenario, and cosmological observations. The first model, Holographic Cosmology, is based on a 3d quantum field theory without time, suggesting the possibility of nonperturbative effects on large angles ($l < 30$) in the CMB sky. The second model, Periodic Time Cosmology, relates (past and future) cosmic expansion history to the spectrum of cosmic perturbations by demanding consistency with an exactly periodic notion of time. Comparing this model to observations leads to surprising implications for dark energy and/or neutrino masses in cosmology.

Presentation type

Parallel talk

Primary author: Ms GOULD, Elizabeth (Perimeter Institute for Theoretical Physics and the University of Waterloo)

Co-author: Dr AFSHORDI, Niayesh (Perimeter Institute for Theoretical Physics and the University of Waterloo)

Presenter: Ms GOULD, Elizabeth (Perimeter Institute for Theoretical Physics and the University of Waterloo)

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