Observing axion potentials through gravitational waves

Tuesday, 25 June 2019 16:45 (15 minutes)

I will discuss the production of gravitational waves which are sourced by the tensor perturbation of SU(2) gauge fields coupled to a spectator axion field. Even though string theory constructions provide a variety of potentials, they can be categorized based on the number of non-stationary inflection points. I will present the resulting GW templates arising from each potential type. I will focus on the case of a modulated (axion monodromy) potential and show how future observations of CMB B-modes can probe the oscillatory behavior of an axion potential, thus shedding light into the underlying string theory construction.

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