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CMB probes of fundamental physics: current status and future prospects

Friday, 12 July 2024 15:00 (35 minutes)

The Cosmic Microwave Background is one of the most powerful cosmological observables, allowing to probe a variety of phenomena, from the Early Universe and high energy physics at scales never achievable in earth facilities, to the evolution of the Universe at much recent epochs. In this talk I will provide an overview of signatures of new fundamental physics, for which the CMB can play the role of a privileged laboratory as a test-bed for scenarios beyond the standard model of particle physics and of cosmology. I will consider, e.g, early universe physics (inflation), including primordial gravitational waves and primordial non-Gaussianity, cosmic birefringence, and axions in cosmology.

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