

Abstract Submitted
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Light Relics and the Cosmic Microwave Background¹ JOEL MEYERS, Southern Methodist Univ, CMB-S4 COLLABORATION — Many well-motivated extensions of the Standard Model of particle physics predict new light degrees of freedom. In many cases, these new light states would have been in thermal equilibrium in the early universe. The extra radiation energy density from such new states would leave a number of imprints in cosmological observables. The temperature and polarization anisotropies of the cosmic microwave background (CMB) on small angular scales are a particularly sensitive probe of the density of light relics. Upcoming CMB experiments will significantly improve sensitivity to the density of light relics, and thereby provide broad and useful constraints on models of new physics. I will discuss the physics of light relics related to the CMB and the sensitivity anticipated from upcoming CMB surveys.

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