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CMB birefringence from axion strings

Monday 17 July 2023 17:00 (20 minutes)

A cosmological network of axion strings in our Universe today may leave its imprint on the polarization pattern of the cosmic microwave background radiation through the phenomenon of axion-string-induced birefringence. I will explain how this signal arises, discuss how it depends on the properties of the string network and the axion-photon coupling, describe how existing measurements of anisotropic birefringence place constraints on axion strings, and discuss how the non-Gaussian nature of this signal could be leveraged in searches with future data.

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