

Birefringence from cosmological pseudoscalar fields

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Cosmic birefringence is a rotation of the polarization plane of photons coming from sources of astrophysical and cosmological origin. We discuss the imprints of a cosmological pseudoscalar field on Cosmic Microwave Background (CMB) propagation. Phenomenological or theoretically motivated redshift dependence of the pseudoscalar fields - such as axionlike dark matter, quintessence, or early dark energy - lead to CMB polarization power spectra which exhibit different multipole dependencies.

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