

## Phenomenology 2022 Symposium: From Virtual to Real



Contribution ID: 153

Type: not specified

### CMB Distortions from an Axion-Dark Photon-Photon Interaction

*Tuesday 10 May 2022 14:15 (15 minutes)*

The Cosmic Microwave Background (CMB) spectrum matches that of a perfect blackbody with very high precision. Therefore, any model that distorts this spectrum is highly constrained. Motivated by certain dark sector models, we consider distortions caused by an axion-dark photon-photon coupling. In an axion dark matter background, this coupling converts CMB photons into invisible dark photons. We present the details of this distortion and the constraints on the axion-dark photon-photon coupling that result from it.

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**Session Classification:** Cosmology III