



Contribution ID: 47

Type: **not specified**

## Exploring circular polarization in the CMB due to conventional sources of cosmic birefringence

Circular polarization of the CMB is currently assumed to be zero in the standard cosmological model. Here we explore the actual level of circular polarization in the CMB by looking at conventional sources of cosmic birefringence. The sources studied include the following: photon-photon scattering, spin polarized hydrogen atoms, static non-linear polarizability of hydrogen and plasma delay. The strongest effect comes from the photon-photon scattering at a level of  $\sim 10^{-14}$  K. Our results are consistent with a vanishing circular polarization of the CMB in comparison with the linear polarization.

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**Session Classification:** Poster social