

Abstract Submitted  
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**Chiral Imprint of a Cosmic Gauge Field on Primordial Gravitational Waves** ROBERT CALDWELL, JANNIS BIELEFELD, Dartmouth College — A cosmological gauge field with isotropic stress-energy introduces parity violation into the behavior of gravitational waves. We show that a primordial spectrum of inflationary gravitational waves develops a preferred handedness, left- or right-circularly polarized, depending on the abundance and coupling of the gauge field during the radiation era. A modest abundance of the gauge field would induce parity-violating correlations of the cosmic microwave background temperature and polarization patterns that could be detected by current and future experiments.

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