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# The Magnetic Structure of Solar Prominence Cavities: New Observational Signature Revealed by Coronal Magnetometry

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## Abstract

The Coronal Multi-channel Polarimeter (CoMP) obtains daily full-Sun above-the-limb coronal observations in linear polarization, allowing for the first time a diagnostic of the coronal magnetic field direction in quiescent prominence cavities. We find that these cavities consistently possess a characteristic “lagomorphic” signature in linear polarization indicating twist or shear extending up into the cavity above the neutral line. We demonstrate that such a signature may be explained by a magnetic flux-rope model, a topology with implications for solar eruptions. We find corroborating evidence for a flux rope structure in the pattern of concentric rings within cavities seen in CoMP line-of-sight velocity.

**Keywords:** cavities, coronal magnetic field, models

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