

Abstract Submitted  
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**Intergalactic Magnetic Field Observations and their Fundamental Implications**<sup>1</sup> TANMAY VACHASPATI, Arizona State Univ — I will review current observational evidence for helical intergalactic magnetic fields at the  $10^{-14}$  G level on  $10$  Mpc length scales. The existence of magnetic fields in cosmic voids and their non-trivial helical structure suggest that they might have originated in the early universe due to CP violating fundamental interactions. The large helicity of the magnetic field suggests a possible crucial role for chiral MHD effects in the early universe.

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