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Simulating interactions of Lorentz-violating monopoles GEORGE SARKAR, MICHAEL SEIFERT, Connecticut College — Theories with spontaneously broken symmetry can give rise to a specific class of solutions known as monopoles. In one such theory, being tested in this paper, an antisymmetric two-tensor field that spontaneously breaks Lorentz symmetry can form such monopole solutions. Very little is known about the interactions of these monopoles; as the equations of motion are nonlinear, simulational techniques are required. We present progress towards creating a simulation of these time-dependent monopoles, seeing if monopoles are still in existence today, and estimating their density in the current universe.

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