

Abstract Submitted
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Space-Time Contraction Fields as an Alternative to Dark Matter JOHN HUENEFELD¹, APS Member — General Relativity portrays curved space-time around matter analogous to a deformed rubber sheet. Adding an inward dynamic to a GR field provides a basis to propose a space-time contraction field around matter. Contracting space-time will increase orbital velocities at large distances above that of gravity alone. This contraction field, when applied to a model galaxy yields a flat rotation curve consistent with observations and could be an alternative to dark matter. The contraction field will also create gravitational lensing and hold galactic clusters together, explaining many of the observations attributed to dark matter. Cosmologically, space-time contraction fields surrounding galaxies embedded within other regions of expanding space-time can lead to an observed acceleration of universal expansion. As the surrounding space-time expands, the proportion of expanding space-time to that of contracting space-time within the universe will increase, thus the observed expansion rate of the universe may appear to increase. The theoretical contraction field arises from inertial reference frames in freefall around a gravitating mass. An inertial reference frame falling from an infinite distance reveals a dynamic process within the metric where space-time is continuously contracted around matter in a very specific way.

¹This abstract is for a poster presentation.

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