Abstract Submitted
for the APR18 Meeting of
The American Physical Society

Use of a Density Function to Represent Gravity GEORGE SCHUHMANN[1], Univ of Louisville — The author presents a density function, $\rho(r, \theta, \phi)$, which, when extended into space-time coordinates $\rho(r, \theta, \phi, t)$, can provide an alternative model for gravitation theory. The goal is to demonstrate that $\rho(r, \theta, \phi, t)$ is a faithful representation of the manifold of curved space-time described by General Relativity (GR). Such an approach could yield valuable benefits to include theoretical insights and computational efficiencies to improve our understanding of gravity as a force of nature. This model also suggests a solution that avoids the singularities inherent in GR. In the density model, gravitational force decreases toward the center of a massive sphere to a pole representing zero rather than increasing to an essential infinity. Other implications of the density representation of gravity are to be presented.

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Date submitted: 12 Jan 2018 Electronic form version 1.4