

Abstract Submitted
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Scalar Gravitational Theory with Variable Rest Mass D.T. FROEDGE, Formerly Auburn University — In this paper we will present the mechanical dynamics of a gravitational system resulting from a specific, rest mass, scalar potential relation, that is equivalent in predicting orbital and photon motion to that of General Relativity in the weak field solutions. The weak solutions of General Relativity do not appear to be contradicted by this development, and in this range the physical difference may not be measurable. The strong field solutions will be significantly different, however since, in this scalar relation, the rest mass goes to zero at Schwarzschild boundary. The consequences of the mass dependence gravitational potential results, for large masses, not in the prediction of black holes, but rather mass to Gamma ray converters. The theory would suggest that the defined gamma ray sources emissions of the galactic center imaged by the ESA/INTEGRAL spacecraft could be from bodies close to the maximum mass.

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