

Spherically Symmetric Objects in Modified Teleparallel Gravity

We investigate compact objects in modified teleparallel gravity with realistic equations of state. We propose a modification of Teleparallel Equivalent to General Relativity, then an appropriate tetrad is applied to the field equations. A specific set of relations showing an equivalency between our gravitational model and the New General Relativity is found. The conservation equation implies that our Tolman-Oppenheimer-Volkoff equations are presented with an effective gravitational coupling constant. Numerical analysis using realistic equations of state is made, and the behavior of mass, radius, and the relation mass-radius as functions of a free parameter of our model is also investigated.

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