

General Relativity Theory – Well Proven and Also Incomplete: The Two Body Problem

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This article expands the former articles “General Relativity Theory – well proven and also incomplete?” [6] and “General Relativity Theory – Well Proven and Also Incomplete. Further Arguments” [7]. With a few arguments both articles proved that general relativity (GRT) makes contradictory predictions about the total energy of a particle resting or moving in the gravitational field. With a few further arguments these articles proved that this contradiction is resolved by expanding general relativity. It was shown that classical GRT is contradictory in energy questions since on one side the total energy of a particle resting in the gravitational field is lower than its rest mass (there is energy needed to pull out the particle from the gravitational field) while on the other side it is equal to its rest mass (this is a consequence of the equivalence principle) [6] and similar in the case of a moving particle [7]. This expansion is called Lorentz-interpretation (LI) of GRT. The following article treats a similar situation arising with the two body problem of gravitational theory. While the two body problem is unsolved in classical GRT it might become solvable by expanding classical GRT using Lorentz-interpretation of GRT. The central idea to solve the two-body-problem by LI of GRT is to adopt the rosette equation of motion $\vec{r}_{mM}(t)$ from classical GRT but keep in mind that $\vec{r}_{mM}(t)$ is the result of some central force and therefore concepts like *center of mass*, *conservation of total energy* and *angular momentum* remain valid by LI of GRT.

Literature

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