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PAPER

Concept of Mass in General Relativity

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The General Theory of Relativity formulated by Albert Einstein, is a widely accepted description of “gravitation” in modern physics. We discuss the concept of mass in General Relativity using the interior Schwarzschild solution. Here we explain that there occurs an error in the mass, given by the defect $\Delta M = -\frac{E}{c^2}$, as a result of using many radial markers in the interior Schwarzschild solution, as explained in text books. However, there is a weakness in the method as the ‘mass’ of the body is evaluated at two points namely at infinity and locally at the body.

In this study, we introduce a new method of calculating mass defect at the same point at infinity, using the redshift as observed at infinity.