The Schwarzschild metric in absolute gravity

David B. Parker*
pgu.org
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INTRODUCTION

This technical report lists some of the properties of the Schwarzschild metric in absolute space and time. They were calculated by substituting the Schwarzschild metric into the formulas in [1].

- Speed of a photon moving radially:

$$\mathbf{v} = \pm c \left(1 - \frac{2KM}{c^2 r}\right) \hat{\mathbf{r}}. \tag{1}$$

- Acceleration of a photon moving radially:

$$\mathbf{a} = \frac{2KM}{r^2} \left(1 - \frac{2KM}{c^2 r}\right) \hat{\mathbf{r}}. \tag{2}$$

- Radius of the superluminal photocore is $\frac{KM}{c^2}$, which is 1/2 the Schwarzschild radius $\frac{2KM}{c^2}$.
- Radius of the superluminal mattercore is $\simeq 0.2779263 \frac{2KM}{c^2}$.
- Acceleration of static matter:

$$\mathbf{a} = -\frac{KM}{r^2} \left(1 - \frac{2KM}{c^2 r}\right) \hat{\mathbf{r}}. \tag{3}$$

- Acceleration of matter moving radially:

$$\mathbf{a} = -\frac{KM}{r^2} \left(\left(1 - \frac{2KM}{c^2 r}\right) - \frac{1}{1 - \frac{2KM}{c^2 r}} \frac{3v^2}{c^2}\right) \hat{\mathbf{r}}. \tag{4}$$

- Density σ of black hole:

$$\sigma = \frac{3c^6}{32\pi K^3 M^2}. \tag{5}$$

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* Electronic address: daveparker@pgu.org

[1] Parker, D. B., "The absolute gravity force equation as classical mechanics", 2023, preprint, https://pgu.org