DEFINITIVE PROOF 6: THE REFUTATION OF EINSTEIN'S GENERAL RELATIVITY

Consider the infinitesimal line element in the plane

$$dz^2 = 0 \tag{1}$$

for a spherical spacetime:

$$ds^2 = c^2 d\tau^2 = m(r)c^2 dt^2 - \frac{dr^2}{m(r)} - r^2 d\theta^2 \tag{2}$$

in cylindrical coordinates (r, θ).

Here $d\tau$ is the infinitesimal of proper time, dt is the infinitesimal of time in the observer frame, and $m(r)$ in general relativity is asserted to be a function of r. Usually $m(r)$ is falsely attributed to Schwarzchild and is asserted incorrectly to be:

$$m(r) = 1 - \frac{r_0}{r} \tag{3}$$

where

$$r_0 = \frac{2MG}{c^2} \tag{4}$$

and where M is the mass of an attracting object, G is Newton's constant, c is the vacuum speed of light.

Proof of Refutation

By definition

$$ds^2 = c^2 d\tau^2 = m(r)c^2 dt^2 - d\boldsymbol{r} \cdot d\boldsymbol{r} \tag{5}$$

where

$$d\boldsymbol{r} \cdot d\boldsymbol{r} = v^2 dt \tag{6}$$

where v is the total linear velocity. In an orbit, v is the total linear velocity of an orbiting mass m in the observer frame.

Therefore:

$$c^2 d\tau^2 = (m(r)c^2 - v^2)dt^2 \tag{7}$$

i.e.

$$\frac{dt}{d\tau} = \left(m(r) - \frac{v^2}{c^2}\right)^{-\frac{1}{2}} \tag{8}$$

The standard theory of general relativity uses the Lagrangian theory to define two constants of motion, the total energy E, and the total angular momentum L:

$$E = m(r)m\, c^2 \frac{dt}{d\tau} \tag{9}$$

$$L = mr^2 \frac{d\theta}{dt} \tag{10}$$

From equations (8) and (9)

$$m(r) = \frac{1}{2}\left(\frac{E}{mc^2}\right)\left[1 \pm \left(1 - \frac{4v^2}{c^2}\left(\frac{mc^2}{E}\right)^2\right)^{\frac{1}{2}}\right]. \tag{11}$$

This result has been checked by computer.

It is also obtained from equation (1) as follows:

First use:

$$\frac{d\theta}{d\tau} = \frac{d\theta}{dt}\frac{dt}{d\tau} = \omega\frac{dt}{d\tau} \tag{12}$$

where ω is the angular velocity.

It follows from the above equations that:

$$\omega = \frac{d\theta}{dt} = \frac{cbm(r)}{r^2} \tag{13}$$

where

$$b = \frac{Lc}{E} \tag{14}$$

Equation (13) has been checked by computer.

So:

$$L = m\, c\, b\, m(r)\left(m(r) - \frac{v^2}{c^2}\right)^{-\frac{1}{2}} \tag{15}$$

and equation (11) obtained again, also checked again by computer. The calculation is self-consistent.

From equations (2) and (6):

$$v^2 = \frac{1}{m(r)}\left(\frac{dr}{dt}\right)^2 + r^2\left(\frac{d\theta}{dt}\right)^2 \tag{16}$$

The above equations show that:

$$\frac{dr}{dt} = c\, b\, m(r)\left(\frac{1}{b^2} - m(r)\left(\frac{1}{a^2} + \frac{1}{r^2}\right)\right)^{\frac{1}{2}} \tag{17}$$

Equation (17) has been checked by computer.

From equations (13), (16) and (17):

$$v^2 == c^2 m(r) \left(1 - \left(\frac{mc^2}{E}\right)^2 m(r)\right). \qquad (18)$$

Equation (18) has been checked by computer.

Finally, from equations (11) and (18), it is found that:

$$m(r) = \left(\frac{E}{mc^2}\right)\left(1 + \frac{E}{mc^2}\right)^{-1} \qquad (19)$$

However, this result, which has been checked by computer, means that $m(r)$ is a constant of motion, and cannot depend on r for any spherical spacetime, Q.E.D., $m(r)$ cannot vary with r because E cannot vary.

Einsteinian general relativity has been refuted for all spherical spacetimes defined by equation (2), and the Einstein field equation has been refuted because of its neglect of torsion.

Conclusion:

This is a very simple refutation that uses the standard definitions themselves. Astronomical data are still very useful, of course, but now must be completely reinterpreted.