The x theory of photon mass and relativistic phenomena: refutation of the Einstein theory

M. W. Evans*, H. Eckardt†
Civil List, A.I.A.S. and UPITEC

(www.webarchive.org.uk, www.aias.us,
www.atomicprecision.com, www.upitec.org)

3 Numerical study of photon velocity and graphical demonstration of the failure of the Einstein theory

The components of the photon velocity are given by Eqs.(23, 25):

$$v_r = \frac{x\ \epsilon\ L}{m\ \alpha}\sqrt{1 - \frac{1}{\epsilon^2}\left(\frac{\alpha}{r} - 1\right)^2}, \tag{48}$$

$$v_\theta = \frac{L}{m\, r}. \tag{49}$$

These components together with the modulus of velocity

$$v = \sqrt{v_r^2 + v_\theta^2} \tag{50}$$

have been plotted in Fig. 1 for parameters $x = m = \alpha = L = 1,\ \epsilon = 10$, i.e. for a hyperbolic orbit. At the radius of closest approach we find $v_r = 0$ and v_θ at maximum as expected. The total velocity is at maximum for closest approach due to Newtonian attraction. This is not compatible with photons moving nearly with speed of light. Therefore we use alternatively the Minkowski metric with the relation

$$\frac{dt}{d\tau} = \gamma = \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}} \tag{51}$$

for proper time τ and coordinate time t. The photon velocity in its rest system is

$$v^2 = \left(\frac{dr}{d\tau}\right)^2 + r^2\left(\frac{d\theta}{d\tau}\right)^2, \tag{52}$$

*email: emyrone@aol.com
†email: mail@horst-eckardt.de

however it is observed from outside so that we have to use time parameter t, leading to the replacements

$$v_r \to v_r/\gamma, \quad v_\theta \to v_\theta/\gamma. \tag{53}$$

The corresponding plot is shown in Fig. 2. One has to choose the velocity of light in a suitable way so that v<c, in this case we used $c = 12$ (all parameters in arbitrary units). Now the total velocity is at minimum at closest approach as described in section 2. This is a non-classical effect of photon mass. In Figs. 1 and 2 the radius of closest approach has been marked by a vertical line.

Now we give a graphical example for the difference between x theory and Einsteinian theory, comparing the force laws (40) and (44) for an ellipse. By equating both laws, we obtain two expressions for the x factor, one from x theory itself (Eq.(47)) and one from Einsteinian theory (Eq.(45)) which is radius dependent. Writing both x factors in terms of constants of motion, we have

$$x_{\text{x theory}} = 1 + \frac{3\ L^2}{m^2\ c^2\ \alpha^2}, \tag{54}$$

$$x_{\text{Einstein}} = \sqrt{1 + \frac{3\ L^2}{m^2\ c^2\ r(r-\alpha)}}. \tag{55}$$

The Einstein x factor is seemingly similar to that of x theory, except a square root and that α^2 is replaced by $r(r-\alpha)$. This effects a pole for $r = \alpha$, leading to a fundamental dissimilarity. This can be seen from the plot of $\theta(r)$, see Fig. 3. Both curves come close at the boundaries of r but differ significantly by appearance of the pole. The Einsteinian x factor gives completely senseless results.

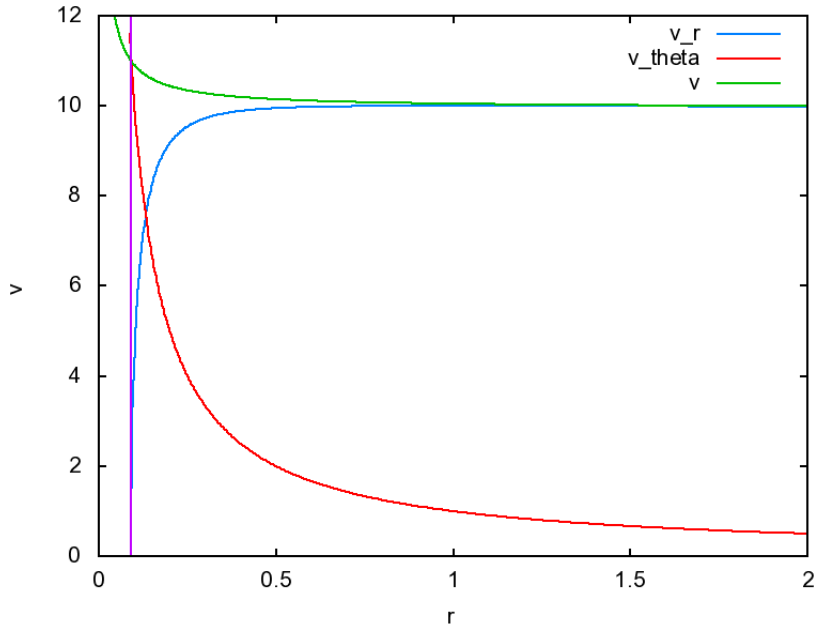

Figure 1: Velocity components for $x = m = \alpha = L = 1,\ \epsilon = 10$.

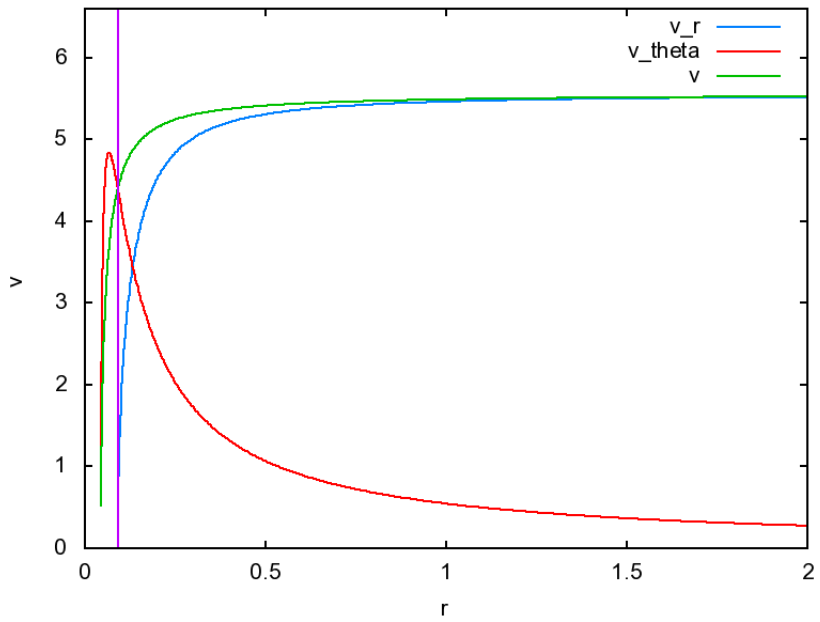

Figure 2: Velocity components as in Fig. 1 but with relativistic γ factor ($c = 12$).

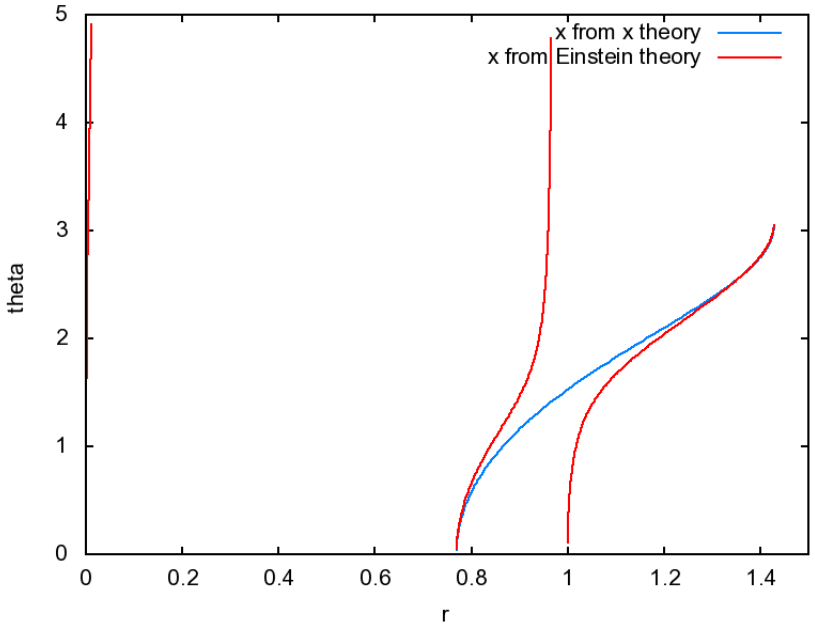

Figure 3: Orbital function $\theta(r)$ for x theory and Einstein theory.