264(1): Calculation of Light Deflection due to Gravitation

In UFT 263 it was found that:

$$\epsilon = 235,735.06, \quad -(1)$$

$$\alpha = 1.639992 \times 10^{14} \, m \quad -(2)$$

using:

$$\Delta\theta = 2\int_{R_0}^{\infty} \frac{d\theta}{dr}\, dr - \pi \quad -(3)$$

where

$$r = \frac{\alpha}{1+\epsilon\cos(x\theta)}, \quad -(4)$$

$$x = 1 + \frac{r_0}{\alpha}, \quad -(5)$$

$$r_0 = \frac{3MG}{c^2}, \quad -(6)$$

and at closest approach:

$$R_0 = \frac{\alpha}{1+\epsilon}. \quad -(7)$$

In UFT 261 it was shown that light deflection due to gravitation is given by:

$$\Delta\phi = 2\sin^{-1}\frac{1}{\epsilon} \quad -(8)$$

so

$$\frac{\Delta\phi}{2} \sim \sin\left(\frac{\Delta\phi}{2}\right) = \frac{1}{\epsilon} \quad -(9)$$

2) and

$$\Delta\phi = \frac{2}{\epsilon} \quad -(10)$$

From eqs. (1) and (10):

$$\Delta\phi = 8.4841 \times 10^{-6} \text{ radians.} \quad -(11)$$

The experimental result from NASA Cassini is

$$(\Delta\phi)_{exp} = 8.484 \times 10^{-6} \text{ radians} \quad -(12)$$

So the R and x theories give both light deflection due to gravitation and orbital precession precisely and self consistently.

$$\Delta\theta = 2\int_{R_0}^{\infty} \frac{d\theta}{dr} dr - \pi = \Delta\phi = \frac{4MG}{R_0 c^2} \quad -(13)$$

$$\Delta\theta(\text{precession}) = \frac{3MG}{c^2 \alpha} \text{ per radian} \quad -(14)$$

$$= \frac{6\pi MG}{c^2 \alpha} \text{ per orbit}$$

These results are given by:

3)

$$r + r_0 = R = \frac{\alpha}{1 + \epsilon \cos\theta} \quad - (15)$$

which is precisely equivalent to:

$$r = \frac{\alpha}{1 + \epsilon \cos(x\theta)} \quad - (16)$$

with

$$x = 1 + \frac{r_0}{\alpha} \quad - (17)$$

The infinitesimal line element is:

$$c^2 d\tau^2 = c^2 dt^2 - dv^2 \quad - (18)$$

with

$$dv^2 = dR^2 + R^2 d\theta^2 \quad - (19)$$

The Einstein field equation is geometrically incorrect and is not used in the calculation.