

Erratum

An $f(R)$ gravitation for galactic environments

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We regret that an initially typographical error in the geodesic equations, Eq. (15) of Sobouti (2007), has propagated through the paper. Corrections are as follows:

$$\frac{d^2r}{d\tau^2} + \frac{1}{2} \frac{A'}{A} \left(\frac{dr}{d\tau} \right)^2 - \frac{r}{A} \left(\frac{d\varphi}{d\tau} \right)^2 + \frac{1}{2} \frac{B'}{A} \left(\frac{dt}{d\tau} \right)^2 = 0, \quad (15)$$

$$\frac{J^2}{r^3} = \frac{1}{2} \frac{B'}{B^2}, \quad (20)$$

$$v^2 = \frac{1}{2} \frac{rB'}{B} = \frac{1}{2} \left(\alpha - \frac{rA'}{A} \right), \quad (22)$$

$$v^2 = \frac{1}{2} \alpha + \frac{1}{2} \left(1 - \frac{1}{2} \alpha \right) \frac{\left(\frac{r}{s} \right)^{1-\alpha/2} + 2\lambda \left(\frac{r}{s} \right)^{2(1-\alpha/2)}}{1 - \left(\frac{r}{s} \right)^{1-\alpha/2} + \lambda \left(\frac{r}{s} \right)^{2(1-\alpha/2)}}, \quad (23)$$

$$v^2 = \frac{1}{2} \alpha c^2 + \frac{GM}{r} \left[1 - \frac{1}{2} \alpha \left\{ 1 + \ln \left(\frac{2GM}{c^2 r} \right) \right\} \right]. \quad (24)$$

Numbers following each equation are the equation numbers of Sobouti (2007).

In Table 1, Col. 5, $2(v_\infty/c)^2 \times 10^{-7}$ and in Col. 6, $\alpha_0 \times 10^{-7}$ are the correct headings. For NGC 801 the asymptotic velocity, v_∞ is 208 km s^{-1} , corresponding to $\alpha_0 = 2.71 \times 10^{-7}$. The changes are minute and in no way alter the conclusions of the paper.

References

Sobouti, Y. 2007, A&A, 464, 921