Erratum

An f(R) gravitation for galactic environments

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Key words. cosmology: theory – cosmology: dark matter – gravitation – galaxies: photometry – errata, addenda

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:

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

\[
\frac{j^2}{r^3} = \frac{1}{2} B' B^2,
\]

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

\[
v^2 = \frac{1}{2} \alpha + \frac{1}{2} \left( 1 - \frac{1}{2} \alpha \right) \frac{\left( \frac{\varphi}{\varphi_0} \right)^{1-\alpha/2} + 2A \left( \frac{\varphi}{\varphi_0} \right)^{2(1-\alpha/2)} - A \left( \frac{\varphi}{\varphi_0} \right)^{1-\alpha/2}}{1 - \left( \frac{\varphi}{\varphi_0} \right)^{1-\alpha/2} + A \left( \frac{\varphi}{\varphi_0} \right)^{1-\alpha/2}}.
\]

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, \( v_\infty \), 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


Article published by EDP Sciences and available at http://www.aanda.org or http://dx.doi.org/10.1051/0004-6361:20077452