Erratum: Eddington's Theory of Gravity and Its Progeny [Phys. Rev. Lett. 105, 011101 (2010)]

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In the original Letter, there were two typographical errors in particular limits of the field equations.

In the case of the spherically symmetric metric with an electromagnetic field, the correct metric has the form

$$f(r) = \left(\int \frac{(r^2 - q^2)(r^4 - \kappa q^2)}{r^4\sqrt{r^4 + \kappa q^2}} dr - 2M\right) \frac{\sqrt{r^4 + \kappa q^2}\, r}{r^4 - \kappa q^2},$$

$$\psi(r) = \frac{r^2}{\sqrt{2r^4 + 2\kappa q^2}},$$

$$E(r) = \frac{q}{\sqrt{r^4 + \kappa q^2}},$$

The discussion leading up to and following this solution remains unchanged.

In the case of the cosmological metric, it is useful to define

$$U = \frac{D}{1 + \kappa\rho_T} \quad \text{and} \quad V = \frac{D}{1 - \kappa P_T},$$

where $D = \sqrt{(1 + \kappa\rho_T)(1 - \kappa P_T)^3}$, $\rho_T = \rho + \Lambda$, and $P_T = P - \Lambda$. Considering the case of a perfect fluid, $P = w\rho$, we then defined

$$F(\rho, \Lambda) = 1 - \frac{3(\kappa\rho_T + \kappa P_T)(1 - w - \kappa\rho_T - \kappa P_T)}{4(1 + \kappa\rho_T)(1 - \kappa P_T)},$$

$$G(\rho, \Lambda) = \frac{1}{\kappa}\left[1 + 2U - 3\frac{U}{V}\right].$$

All combined, these lead to the corrected Friedmann-Robertson-Walker equations

$$H^2 = \frac{1}{6}\frac{G}{F^2}.$$

The discussion that follows in the original Letter remains unchanged; i.e., the cosmological consequences presented in the published version are correct.

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