

Erratum to: The “complex trick” in five-dimensional relativity

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After the final coordinate transformation (21) the metric (22a) reads

$$\begin{aligned} ds^2 = & \left[2(RV)^{1/2} - V + \frac{a^2 \sin^2 \vartheta}{r^2} \left(1 + g_\varphi + 2(RV)^{1/2} \epsilon_u (\epsilon_r - \epsilon_u) + 2V \right) \right] dr^2 \\ & + \left(r^2 + a^2 \cos^2 \vartheta \right) d\vartheta^2 + r^2 \sin^2 \vartheta \left(1 + g_\varphi \right) d\varphi^2 - V (dx^4)^2 \\ & + 2a \sin^2 \vartheta \left[V \left(\epsilon_r \left(\frac{R}{V} \right)^{1/2} + \epsilon_u \right) + \epsilon_u \left(1 - (RV)^{1/2} \right) + \epsilon_u g_\varphi \right] dr d\varphi \\ & + 2 \left[V - (RV)^{1/2} - \frac{a^2 \sin^2 \vartheta}{r^2} \left(\epsilon_r \epsilon_u (RV)^{1/2} + V \right) \right] dr dx^4 \\ & - 2aV \sin^2 \vartheta \left[\epsilon_r \left(\frac{R}{V} \right)^{1/2} + \epsilon_u \right] d\varphi dx^4 \\ g_\varphi = & \frac{a^2}{r^2} \cos^2 \vartheta - \frac{a^2 V}{r^2} \left[1 + 2\epsilon_r \epsilon_u \left(\frac{R}{V} \right)^{1/2} \right] \sin^2 \vartheta \end{aligned}$$

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