

**Erratum: Slowly rotating black holes in dynamical Chern-Simons gravity:
Deformation quadratic in the spin
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Kent Yagi, Nicolás Yunes, and Takahiro Tanaka
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The original paper [1] contains a few typos that we correct here. Fortunately, none of these affect any of the figures or the conclusions arrived at in this paper.

First, there was a sign error in the scalar field potential term in the definition of the scalar field stress-energy tensor. Equation (6) should be corrected to [2]

$$T_{\mu\nu}^{\vartheta} \equiv \beta(\nabla_{\mu}\vartheta)(\nabla_{\nu}\vartheta) - \frac{\beta}{2}g_{\mu\nu}[\nabla_{\delta}\vartheta\nabla^{\delta}\vartheta + 2V(\vartheta)]. \quad (1)$$

Next, there were typos in the linear order in spin terms in $\omega(E)$ and $E(\omega)$. The correct version of Eqs. (103) and (104) is

$$\begin{aligned} \omega(E) &= \frac{2\sqrt{2}}{M}(1-E)^{3/2}\left[1 + \frac{9}{4}(1-E)^{5/2} - 8\sqrt{2}\chi(1-E)^3\right. \\ &\quad \left. + \frac{891}{32}\left(1 + \frac{64}{297}\chi^2 - \frac{67}{2772}\zeta\chi^2\right)(1-E)^{7/2}\right] \\ &\quad + \mathcal{O}[(1-E)^4], \\ E(\omega) &= 1 - \frac{1}{2}(M\omega)^{2/3} + \frac{3}{8}(M\omega)^{4/3} - \frac{4\chi}{3}(M\omega)^{5/3} \\ &\quad + \frac{27}{16}\left(1 + \frac{8}{27}\chi^2 - \frac{67}{2016}\zeta\chi^2\right)(M\omega)^2 \\ &\quad + \mathcal{O}[(M\omega)^{7/3}], \end{aligned} \quad (2)$$

respectively. We checked that in the limit as $\zeta \rightarrow 0$, Eq. (3) is consistent with Eq. (17a) of [3]. Notice that the Chern-Simons corrections are unchanged. Since we have set $V(\vartheta)$ to zero throughout and we do not use $\omega(E)$ nor $E(\omega)$ elsewhere in the original paper [1], all the other equations and figures are unaffected.

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[1] K. Yagi, N. Yunes, and T. Tanaka, *Phys. Rev. D* **86**, 044037 (2012).

[2] S. Alexander and N. Yunes, *Phys. Rep.* **480**, 1 (2009).

[3] L. E. Kidder, C. M. Will, and A. G. Wiseman, *Phys. Rev. D* **47**, R4183 (1993).