

Erratum: Search for gravitational waves from Scorpius X-1 in the second Advanced LIGO observing run with an improved hidden Markov model [Phys. Rev. D 100, 122002 (2019)]

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Equation (15) of the original article is in error; it should read [1]

$$h_0^{\text{eq}} = 5.5 \times 10^{-27} \left(\frac{F_X}{10^{-8} \text{erg cm}^{-2} \text{s}^{-1}} \right)^{1/2} \times \left(\frac{r_m}{10 \text{ km}} \right)^{1/4} \left(\frac{R_\star}{10 \text{ km}} \right)^{1/2} \times \left(\frac{1.4 M_\odot}{M_\star} \right)^{1/4} \left(\frac{300 \text{ Hz}}{f_\star} \right)^{1/2}, \quad (15)$$

where r_m , the accretion-torque lever arm, is evaluated at either the stellar radius R_\star or the Alfvén radius R_A . The upper limits $h_0^{95\%}$ presented in the original article are unaffected by this error.

In Fig. 5 of the original article, the theoretical torque-balance upper limit curve at the Alfvén radius should be multiplied by a factor

$$\frac{R_A^{1/4} R_\star^{1/2}}{R_A^{3/4}} = \left(\frac{R_\star}{R_A} \right)^{1/2} = \left(\frac{10 \text{ km}}{35 \text{ km}} \right)^{1/2} \sim 0.534.$$

A corrected version of this figure is provided here.

In Section V B of the original article, the sentences

At the most sensitive sub-band, starting at $f_0 = 194.6 \text{ Hz}$, the electromagnetically-constrained upper limit is a factor of about 1.2 below (3.1 above) the torque balance for $R = R_A$ ($R = R_\star$). The upper limits for a circularly-polarized signal beat the

$R = R_A$ torque balance upper limit between 60 and 223 Hz; and the upper limits assuming an electromagnetically constrained inclination angle beat the $R = R_A$ torque balance limit between 94 Hz and 113 Hz.

should instead read

At the most sensitive sub-band, starting at $f_0 = 194.6 \text{ Hz}$, the electromagnetically-constrained upper limit is a factor of about 2.3 above (3.1 above) the torque balance for $R = R_A$ ($R = R_\star$). The upper limits do not beat the torque balance upper limit, either at $R = R_A$ or at $R = R_\star$.

In Section VI of the original article, the sentence For the electromagnetically-restricted case, the limit is 3.1 times above, or 1.2 times below, the torque-balance limit, when the torque-balance lever arm is the stellar radius or the Alfvén radius respectively.

should instead read

For the electromagnetically-restricted case, the limit is 3.1 times above, or 2.3 times above, the torque-balance limit, when the torque-balance lever arm is the stellar radius or the Alfvén radius respectively.

[1] Y. Zhang, M. A. Papa, B. Krishnan, and A. L. Watts, *Astrophysical Journal Letters* **906**, L14 (2021), arXiv:2011.04414 [astro-ph.HE].

* Deceased, February 2018.

† Deceased, November 2017.

‡ Deceased, July 2018.

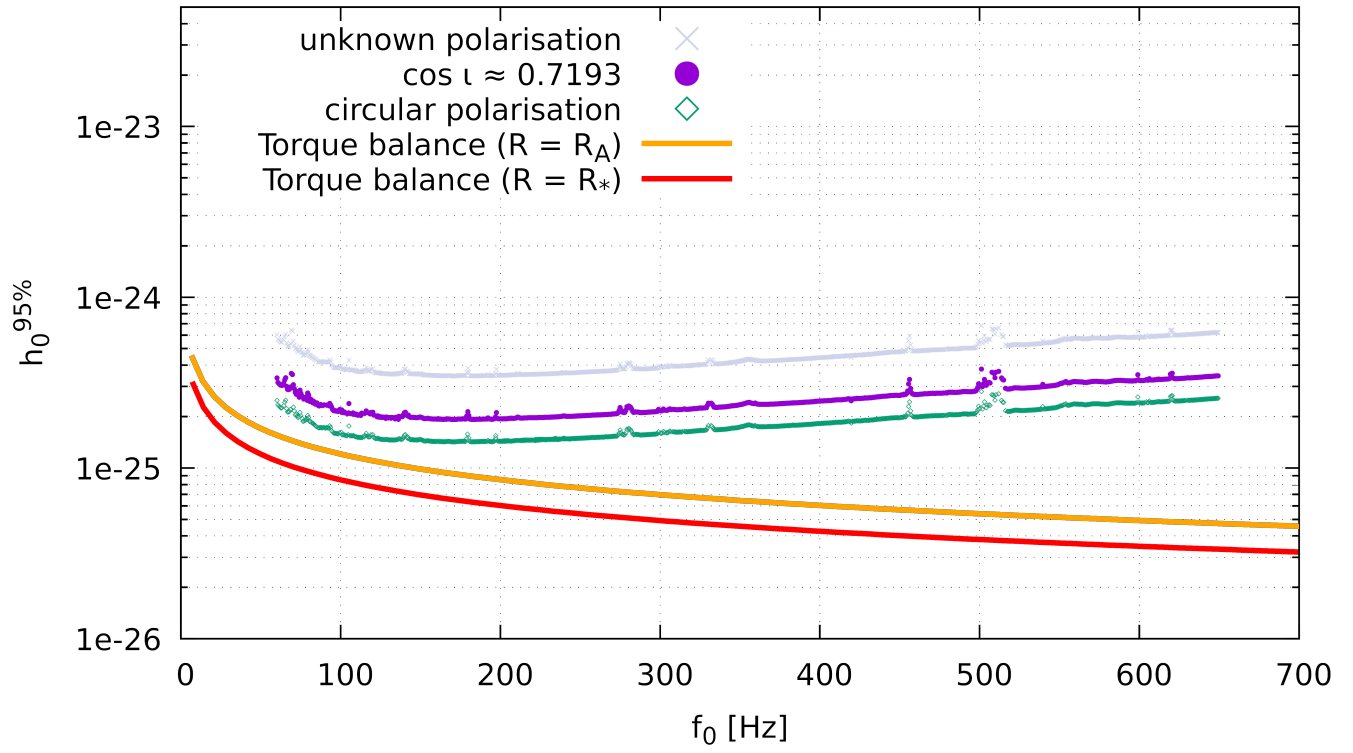


FIG. 5: Corrected version of Fig. 5 in the original article.