Erratum: Multipole Love relations **[Phys. Rev. D 89, 043011 (2014)]**

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In Figs. 6 and 9 of this paper, we were accidentally plotting $|\bar{\sigma}_2|/C^2$ instead of $|\bar{\sigma}_2|$ on the vertical axis. The corrected figures are shown in Figs. 1 and 2 respectively. The fitted curves in Fig. 2 are given by Eq. (60) of this paper with the coefficients corrected to Table I.

The post-Newtonian relation between $\bar{\sigma}_2$ and C in Eqs. (50) and (51) in this paper are corrected as

$$\bar{\sigma}_2^{\text{1PN},(n=1)} = -\frac{1}{60} \left(1 - \frac{20}{\pi^2} + \frac{120}{\pi^4} \right) \frac{1}{C^4}, \quad (1)$$

$$\bar{\sigma}_2^{\text{1PN},(n=0)} = -\frac{1}{140} \frac{1}{C^4}, \quad (2)$$

respectively. The post-Newtonian relation between $\bar{\sigma}_2$ and $\bar{\lambda}_2$ in Eqs. (65), (70), (75) and (80) in this paper are corrected as

$$\bar{\sigma}_2^{\text{1PN}} = C_{\bar{\sigma}_2 \bar{\lambda}_2} (\bar{\lambda}_2^N)^{4/5}, \quad (3)$$

with

$$C_{\bar{\sigma}_2 \bar{\lambda}_2}^{(n=1)} = -\frac{120 - 20\pi^2 + \pi^4}{203^{1/5} \pi^{12/5} (15 - \pi^2)^{4/5}} \approx -0.0139, \quad (4)$$

$$C_{\bar{\sigma}_2 \bar{\lambda}_2}^{(n=0)} = -\frac{1}{702^{1/5}} \approx -0.0124, \quad (5)$$

and

FIG. 1. $\bar{\sigma}_2$ – C relation for neutron stars (NSs) and quark stars (QSs) with various equations of state (EoSs). We also show the relations for the $n = 1$ and $n = 0$ polytropes at 1PN order.

FIG. 2. $\bar{\sigma}_2$ – $\bar{\lambda}_2$ relation for NSs and Qs with various EoSs.TABLE I. Estimated numerical coefficients for the fitting formula of the $\bar{\sigma}_2$ – $\bar{\lambda}_2$ relation for NSs and Qs given in Eq. (61) of [1].

y_i	x_i	NS/QS	a_i	b_i	c_i	d_i	e_i
$ \bar{\sigma}_2 $	$\bar{\lambda}_2$	NS	−2.01	0.462	1.68×10^{-2}	-1.58×10^{-4}	-6.03×10^{-6}
		QS	−1.89	0.393	2.81×10^{-2}	-9.59×10^{-4}	1.33×10^{-5}

$$\frac{C_{\bar{\sigma}_2 \bar{\lambda}_2}^{(n=0)}}{C_{\bar{\sigma}_2 \bar{\lambda}_2}^{(n=1)}} = \frac{3^{1/5} \pi^{12/5} (30 - 2\pi^2)^{4/5}}{7(120 - 20\pi^2 + \pi^4)} \approx 0.893. \quad (6)$$

All other results are unaffected by the above corrections.

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