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Erratum: Comparing the galactic bulge and galactic disk millisecond pulsars

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The corrections are listed below. In some cases we have highlighted the corrected text in bold.

- In table 3, "B1" should be replaced by "B2" so that the corrected table is:

Parameter	Model A1	Model **B2**	Model A5	Model A7	Model A9
$\lambda_{\rm res}$	108^{+11}_{-10}	107^{+11}_{-10}	108^{+10}_{-10}	108^{+11}_{-10}	108^{+11}_{-10}
$\log_{10}(N_{\rm disk}/N_{\rm bulge})$	$0.00^{+0.13}_{-0.12}$	–	$0.00^{+0.13}_{-0.12}$	$0.04^{+0.12}_{-0.11}$	$0.09^{+0.11}_{-0.10}$
$\log_{10}(N_{\rm nb}/N_{\rm bb})$	$-0.66^{+0.08}_{-0.07}$	–	$-0.66^{+0.08}_{-0.07}$	$-0.61^{+0.06}_{-0.07}$	$-0.58^{+0.04}_{-0.04}$
σ_r (kpc)	$4.5^{+0.5}_{-0.4}$	$4.5^{+0.5}_{-0.4}$	$4.4^{+0.5}_{-0.4}$	$4.4^{+0.5}_{-0.4}$	$4.5^{+0.6}_{-0.4}$
z_0 (kpc)	$0.71^{+0.11}_{-0.09}$	$0.70^{+0.10}_{-0.09}$	$0.71^{+0.11}_{-0.09}$	$0.71^{+0.11}_{-0.09}$	$0.72^{+0.11}_{-0.09}$
$K_{\rm th}$	$0.45^{+0.09}_{-0.08}$	$0.43^{+0.09}_{-0.08}$	$0.45^{+0.09}_{-0.08}$	$0.46^{+0.09}_{-0.08}$	$0.46^{+0.09}_{-0.08}$
$\sigma_{\rm th}$	$0.28^{+0.05}_{-0.04}$	$0.27^{+0.05}_{-0.04}$	$0.28^{+0.05}_{-0.04}$	$0.28^{+0.05}_{-0.04}$	$0.28^{+0.05}_{-0.04}$
$C_{\rm parallax}$	$0.43^{+0.15}_{-0.10}$	$0.45^{+0.16}_{-0.11}$	$0.43^{+0.15}_{-0.10}$	$0.43^{+0.15}_{-0.10}$	$0.40^{+0.13}_{-0.08}$
$\log_{10}(d_{\rm parallax}/{\rm kpc})$	$0.8^{+0.6}_{-0.3}$	$0.7^{+0.6}_{-0.3}$	$0.8^{+0.6}_{-0.3}$	$0.8^{+0.6}_{-0.3}$	$0.9^{+0.6}_{-0.4}$
$a_{E_{\rm cut}}$	$0.18^{+0.05}_{-0.05}$	$0.21^{+0.05}_{-0.05}$	$0.19^{+0.05}_{-0.05}$	–	$0.17^{+0.05}_{-0.05}$
$b_{E_{\rm cut}}$	$2.83^{+0.05}_{-0.06}$	$2.79^{+0.06}_{-0.07}$	$2.99^{+0.03}_{-0.02}$	$2.79^{+0.06}_{-0.06}$	$2.99^{+0.03}_{-0.03}$
$\sigma_{E_{\rm cut}}$	$0.23^{+0.02}_{-0.02}$	$0.23^{+0.02}_{-0.02}$	$0.22^{+0.02}_{-0.02}$	$0.25^{+0.02}_{-0.02}$	$0.23^{+0.02}_{-0.02}$
a_Γ	$0.41^{+0.08}_{-0.08}$	$0.43^{+0.08}_{-0.08}$	$0.43^{+0.07}_{-0.08}$	–	$0.39^{+0.08}_{-0.08}$
b_Γ	$0.81^{+0.07}_{-0.08}$	$0.77^{+0.08}_{-0.10}$	$1.00^{+0.04}_{-0.04}$	$0.70^{+0.09}_{-0.10}$	$0.99^{+0.04}_{-0.04}$
σ_Γ	$0.36^{+0.04}_{-0.03}$	$0.36^{+0.04}_{-0.03}$	$0.34^{+0.03}_{-0.03}$	$0.42^{+0.04}_{-0.03}$	$0.35^{+0.03}_{-0.03}$
$r_{\Gamma,E_{\rm cut}}$	$0.75^{+0.05}_{-0.06}$	$0.77^{+0.05}_{-0.06}$	$0.73^{+0.06}_{-0.07}$	$0.79^{+0.04}_{-0.05}$	$0.75^{+0.05}_{-0.06}$
a_γ	$1.2^{+0.3}_{-0.3}$	$1.4^{+0.3}_{-0.3}$	–	$1.3^{+0.3}_{-0.3}$	–
b_γ	$0.1^{+0.4}_{-0.4}$	$0.1^{+0.4}_{-0.4}$	–	$0.1^{+0.4}_{-0.4}$	–
d_γ	$0.50^{+0.12}_{-0.12}$	$0.48^{+0.12}_{-0.12}$	–	$0.56^{+0.11}_{-0.10}$	–
α_γ	–	–	$0.74^{+0.11}_{-0.10}$	–	–
DTD p(0–2.8 Gyr)	$0.13^{+0.14}_{-0.09}$	$0.13^{+0.15}_{-0.09}$	$0.13^{+0.14}_{-0.09}$	$0.10^{+0.11}_{-0.07}$	$0.02^{+0.02}_{-0.01}$
DTD p(2.8–5.5 Gyr)	$0.15^{+0.18}_{-0.11}$	$0.15^{+0.19}_{-0.11}$	$0.15^{+0.18}_{-0.11}$	$0.12^{+0.16}_{-0.09}$	$0.02^{+0.03}_{-0.02}$
DTD p(5.5–8.3 Gyr)	$0.29^{+0.20}_{-0.17}$	$0.26^{+0.18}_{-0.16}$	$0.29^{+0.20}_{-0.17}$	$0.25^{+0.18}_{-0.14}$	$0.09^{+0.06}_{-0.05}$
DTD p(8.3–11.1 Gyr)	$0.14^{+0.16}_{-0.10}$	$0.11^{+0.14}_{-0.08}$	$0.15^{+0.17}_{-0.10}$	$0.14^{+0.17}_{-0.10}$	$0.06^{+0.11}_{-0.05}$
DTD p(11.1–13.8 Gyr)	$0.14^{+0.22}_{-0.11}$	$0.22^{+0.20}_{-0.15}$	$0.13^{+0.21}_{-0.10}$	$0.27^{+0.24}_{-0.19}$	$0.78^{+0.08}_{-0.14}$
$\log_{10}(P_{i,\ {\rm med}}/{\rm s})$	$-2.61^{+0.05}_{-0.04}$	$-2.60^{+0.05}_{-0.04}$	$-2.61^{+0.05}_{-0.04}$	$-2.63^{+0.04}_{-0.03}$	$-2.69^{+0.03}_{-0.03}$
σ_{P_i}	$0.13^{+0.02}_{-0.02}$	$0.13^{+0.02}_{-0.02}$	$0.13^{+0.02}_{-0.02}$	$0.12^{+0.02}_{-0.02}$	$0.13^{+0.02}_{-0.02}$
$\log_{10}(B_{\rm med}/{\rm G})$	$8.21^{+0.05}_{-0.06}$	$8.21^{+0.06}_{-0.06}$	$8.21^{+0.03}_{-0.04}$	$8.21^{+0.05}_{-0.05}$	$8.25^{+0.02}_{-0.02}$
σ_B	$0.21^{+0.03}_{-0.02}$	$0.21^{+0.03}_{-0.02}$	$0.22^{+0.03}_{-0.03}$	$0.21^{+0.03}_{-0.03}$	$0.19^{+0.02}_{-0.02}$
$\log_{10}(\eta_{\rm med})$	12^{+5}_{-5}	12^{+5}_{-5}	7^{+4}_{-4}	9^{+4}_{-4}	$32.17^{+0.23}_{-0.31}$
σ_η	$0.52^{+0.06}_{-0.05}$	$0.53^{+0.06}_{-0.05}$	$0.58^{+0.06}_{-0.05}$	$0.51^{+0.06}_{-0.05}$	$0.72^{+0.08}_{-0.06}$
σ_v (km s^{-1})	77^{+6}_{-6}	76^{+6}_{-5}	77^{+6}_{-6}	77^{+6}_{-6}	78^{+6}_{-6}

Table 3. Medians and 68% confidence intervals for a selection of different models of the Galactic MSP population. See table 2 for a description of the model labels.

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- In table 7 two more of the entries should have been highlighted in red. The corrected table is:

$\log_{10}(\omega)$	0.422						
$\log_{10}(F)$	0.670	0.141					
$\log_{10}(P)$	**0.000**	0.998	0.289				
$\log_{10}(\dot{P})$	0.997	0.104	0.697	0.140			
μ	0.424	0.396	0.275	0.998	0.155		
$\log_{10}(E_{\rm cut})$	**1.000**	0.002	0.869	0.541	0.316	0.053	
Γ	0.998	0.012	0.978	0.621	0.354	0.192	0.631
	$\log_{10}(\mathrm{DM})$	$\log_{10}(\omega)$	$\log_{10}(F)$	$\log_{10}(P)$	$\log_{10}(\dot{P})$	μ	$\log_{10}(E_{\rm cut})$

Table 7. Same as table 5 except for Model A9 which has $L = \eta$.

Related to this correction, the following sentence in section 4

> In contrast to this, five correlation coefficients for Model A9 are outside this interval.

should rather be

> In contrast to this, **seven** correlation coefficients for Model A9 are outside this interval.

- The following sentence in section 4 should be removed:

> As can also be seen from the $p_{\rm WAIC}$ values of table 2, Model A9 only has around two fewer effective parameters than Model A1. The reason why it is not three is due to $b_\gamma = 0.1 \pm 0.4$ not being significantly different from zero.

- The following sentence in section 4

> Model A6 is related to model A1 as follows from eqs. (2.17) and (2.18) which demonstrate that we can go from the luminosity function in Model A1 to the luminosity function in Model A4 by setting $b_\gamma = \frac{\alpha_\gamma}{2} + \frac{3\beta_\gamma}{2}$ and $d_\gamma = \frac{\beta_\gamma}{4} - \frac{\alpha_\gamma}{4}$.

should rather be

> Model A6 is related to model A1 as follows from eqs. (2.17) and (2.18) which demonstrate that we can go from the luminosity function in Model A1 to the luminosity function in Model **A6** by setting $b_\gamma = \frac{\alpha_\gamma}{2} + \frac{3\beta_\gamma}{2}$ and $d_\gamma = \frac{\beta_\gamma}{4} - \frac{\alpha_\gamma}{4}$.

- The following sentence in section 4

> This stands in contrast to the case of synchrotron radiation for which $a_\gamma = 3/2$, $b_\gamma = 3/4$ and $d_\gamma = -1/8$ is expected.

should rather be

> This stands in contrast to the case of synchrotron radiation for which $a_\gamma = \mathbf{1}$, $b_\gamma = \mathbf{0}$ and $d_\gamma = \mathbf{1}$ is expected.

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- Eq. (B.2) should be replaced with

$$\begin{aligned} p(\ldots, \mathrm{DM}_j, \ldots) &= \int \mathrm{d}\theta_{\mathrm{YMW16}} p(\theta_{\mathrm{YMW16}}) p(\ldots, \mathrm{DM}_j, \ldots | \theta_{\mathrm{YMW16}}) \\ &= \int \mathrm{d}\theta_{\mathrm{YMW16}} p(\theta_{\mathrm{YMW16}}) \left| \frac{\partial}{\partial \mathrm{DM}} d(\mathrm{DM}_j, \theta_{\mathrm{YMW16}}) \right| p(\ldots, d(\mathrm{DM}_j, \theta_{\mathrm{YMW16}}), \ldots) \\ &= \int \mathrm{d}\theta_{\mathrm{YMW16}} \frac{p(\theta_{\mathrm{YMW16}})}{n_e(d(\mathrm{DM}_j, \theta_{\mathrm{YMW16}}), \theta_{\mathrm{YMW16}})} p(\ldots, d(\mathrm{DM}_j, \theta_{\mathrm{YMW16}}), \ldots) \end{aligned}$$

- In appendix B, "ao et al. [22]" should be replaced with "Yao et al. [22]".

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