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Erratum: Estimating the dark matter halo mass of our Milky Way using dynamical tracers

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Our paper 'Estimating the dark matter halo mass of our Milky Way using dynamical tracers' published in MNRAS, 2015, 453, 377 contained typographic errors in equations (12) and (6) as detailed below. Our code used the correct expressions in both cases; hence, none of our figures or conclusions are affected by these errors.

In equation (12), the power-law exponent in the denominator of the term:

$$\frac{R'^{2\beta+1}}{\left[\frac{R'}{1+R'}-\ln(1+R')\right]\left[\left(\frac{R'}{r_0}\right)^{\alpha} r_{\rm s}^{-\gamma}+\left(\frac{R'}{r_0}\right)^{\gamma} r_{\rm s}^{-\alpha}\right]^{3}} \quad (1)$$

was given as 2 in the original text. In full, the correct version of equation (12) is

$$\begin{aligned}
&P(r, v_{\rm r}, v_{\rm t}|\rho_{\rm s}, r_{\rm s}, \beta, \alpha, \gamma, r_0) = \\
&-\frac{r_{\rm s}^{-\alpha-\gamma} l^{-2\beta}}{2^{3/2-\beta}\pi^{3/2} v_{\rm s}^3 \Gamma(\beta+1/2)\Gamma(1-\beta)} \\
&\times \int_{R_{\rm inner}}^{R_{\rm max,t}} {\rm d}R'(\epsilon(r)-\phi(R'))^{\beta-1/2} \\
&\times \left\{ \frac{(2\beta+1)R'^{2\beta}\left(\frac{R'}{1+R'}-\ln(1+R')\right)-\left[\frac{1}{(1+R')^2}-\frac{1}{1+R'}\right]R'^{2\beta+1}}{\left[\frac{R'}{1+R'}-\ln(1+R')\right]^2} \right. \\
&\times \frac{(2\beta-\alpha)\left(\frac{R'}{r_0}\right)^{\alpha} r_{\rm s}^{-\gamma}+(2\beta-\gamma)\left(\frac{R'}{r_0}\right)^{\gamma} r_{\rm s}^{-\alpha}}{\left[\left(\frac{R'}{r_0}\right)^{\alpha} r_{\rm s}^{-\gamma}+\left(\frac{R'}{r_0}\right)^{\gamma} r_{\rm s}^{-\alpha}\right]^2} \\
&+\frac{R'^{2\beta+1}}{\left[\frac{R'}{1+R'}-\ln(1+R')\right]\left[\left(\frac{R'}{r_0}\right)^{\alpha} r_{\rm s}^{-\gamma}+\left(\frac{R'}{r_0}\right)^{\gamma} r_{\rm s}^{-\alpha}\right]^{3}} \\
&\times \left[(2\beta-\alpha) r_{\rm s}^{-\alpha-\gamma}\left(\frac{\alpha}{r_0}-\frac{2\gamma}{r_0}\right)\left(\frac{R'}{r_0}\right)^{\alpha+\gamma-1} \right. \\
&+(2\beta-\gamma) r_{\rm s}^{-\alpha-\gamma}\left(\frac{\gamma}{r_0}-\frac{2\alpha}{r_0}\right)\left(\frac{R'}{r_0}\right)^{\alpha+\gamma-1} \\
&\left.\left. -(2\beta-\alpha) r_{\rm s}^{-2\gamma}\frac{\alpha}{r_0}\left(\frac{R'}{r_0}\right)^{2\alpha-1} - (2\beta-\gamma) r_{\rm s}^{-2\alpha}\frac{\gamma}{r_0}\left(\frac{R'}{r_0}\right)^{2\gamma-1} \right] \right\}. \quad (2)
\end{aligned}$$

In equation (6), $\rho_{\rm s}$ should be $\rho(r)$. The correct version is

$$P(r, v_{\rm r}|C) = \frac{1}{\sqrt{2}\pi r^{2\beta}} \int_{\Phi(r_{\rm max,t})}^{E_{\rm r}} \frac{{\rm d}\Phi}{\sqrt{E_r-\Phi}} \frac{{\rm d}r^{2\beta}\rho(r)}{{\rm d}\Phi}. \quad (3)$$

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