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Erratum: density profiles of CDM microhalos and their implications for annihilation boost factors

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The paper “Density profiles of CDM microhalos and their implications for annihilation boost factors” was published in JCAP, Issue 04, 009 (2013) [1]. The simulation parameters of Halos 1–3 in the realisation with cutoff in the initial matter power spectrum are erroneous (see table 1 in [1]). The corrected values for $M_{200}$ and $r_{200}$ (and therefore as a consequence also $c_{200}$ and $c_{NFW}$) are listed in table 1. Furthermore, the changes in $c_{200}$ also cause changes in the $z = 0$ concentration estimates, given in section 3.2. They now read: $c_{200} = 74.6, 83.8$ and 56.6. We want to stress that all our physical conclusions remain unaltered.

Finally, we would like to report a typo in the axes labeling in figure 2 in [1]. The spherically averaged density profiles are plotted at $z = 31$, not at $z = 0$ as indicated in the figure. An updated version is shown in figure 2.

Acknowledgments

We thank Adrienne Erickcek who helped us finding these mistakes.

References

\begin{table}
\centering
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline
 & $M_{200}$ & $r_{200}$ & $r_s$ & $c_{200} = r_{200}/r_s$ & $c_{NFW}$ & $\alpha$ \\
\hline
Cutoff & & & & & & \\
Halo 1 & 0.79 & 4.26 & 1.84 & 2.33 & 3.89 & 1.4 \\
Halo 2 & 2.08 & 5.89 & 2.25 & 2.62 & 3.72 & 1.3 \\
Halo 3 & 2.18 & 5.99 & 3.38 & 1.77 & 2.96 & 1.4 \\
\hline
No Cutoff & & & & & & \\
Halo 1 & 1.94 & 5.78 & 1.94 & 2.97 & 2.97 & 1 \\
Halo 2 & 2.93 & 6.63 & 2.22 & 2.98 & 2.98 & 1 \\
Halo 3 & 3.81 & 7.22 & 3.47 & 2.09 & 2.09 & 1 \\
\hline
\end{tabular}
\caption{Halo parameters of the Level 1 simulation at redshift $z = 31$. $M_{200}$ and $r_{200}$ are measured as 200 times the critical density, $\alpha$ is the inner density slope of the measured density profile (see eq. (3.1) in [1]), $\alpha = 1$ corresponds to the NFW profile. Distances are given in physical units.}
\end{table}
Figure 2. Panels 1–3: spherically averaged density profiles of the three largest collapsed microhalos at \( z = 31 \), with (red triangles) and without (black squares) cutoff. The red solid lines refer to the best fit according to eq. (3.1) in [1] with \( \alpha = 1.4 \) (Halo 1 & Halo 3) and \( \alpha = 1.3 \) (Halo 2), the black solid lines refer to a NFW fit respectively. The radial distance is plotted in physical units, densities in units of \( \rho_{\text{crit}} \) at \( z = 31 \). Panel 4: density residuals between the Level 1 run and three convergence test simulations, each varying one simulation parameter.