Erratum: "Formation and evolution of galaxy dark matter halos and their substructure"

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Figures 6, 7 and 8 of the original paper are incorrect. The radii of the spherical shells used to select the subhalos were too small by a factor equal to the cosmological expansion factor $a = 1/(1 + z)$. Despite this error the slopes of mass and velocity functions (Fig. 7) and the subhalo concentrations (Fig. 8) did show the correct qualitative behaviour in the original paper.

The abundance of substructure (Fig. 6) however is larger at high redshifts in the corrected plot. As stated in the original paper the subhalo mass loss still peaks between the epochs of turnaround and stabilization. But after a region has virialized the corrected abundance does *not* remain constant. It rather continues to decline for some more time at an ever decreasing rate and approaches a constant level at a significantly *later* epoch than right after the stabilization of the shell.

The other statements and conclusions of the paper are unchanged.

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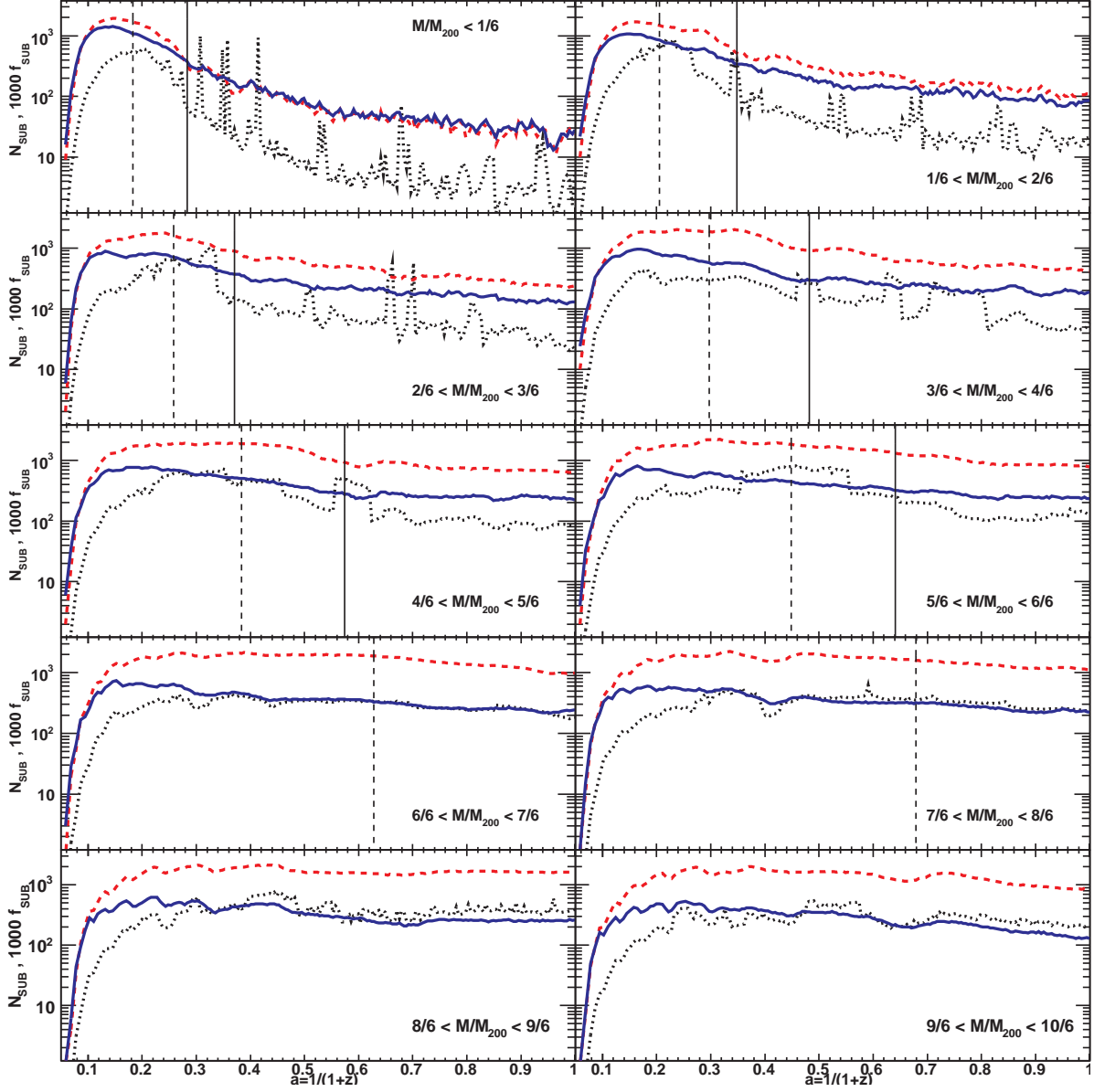
Fig. 6.— Abundance of (sub)halos versus time in shells containing a fixed mass and centered on the main Via Lactea progenitor at each time. Shells are ordered from inner (*top left*) to outer (*bottom right*). *Solid line:* number of subhalos with $V_{\max} > 5$ km/s. *Dashed line:* number of subhalos with $M_{\mathrm{sub}} > 4.0 \times 10^6 \, \mathrm{M}_\odot$. *Dotted line:* mass fraction in resolved (sub)halos within each shell (excluding the most massive subhalo to avoid spikes as it orbits though the shells). The vertical dashed line marks the time of maximal expansion of the corresponding mass shell, and the vertical solid line the approximate stabilization epoch. The subhalo mass loss rate peaks between these two epochs and declines after the region stabilizes.
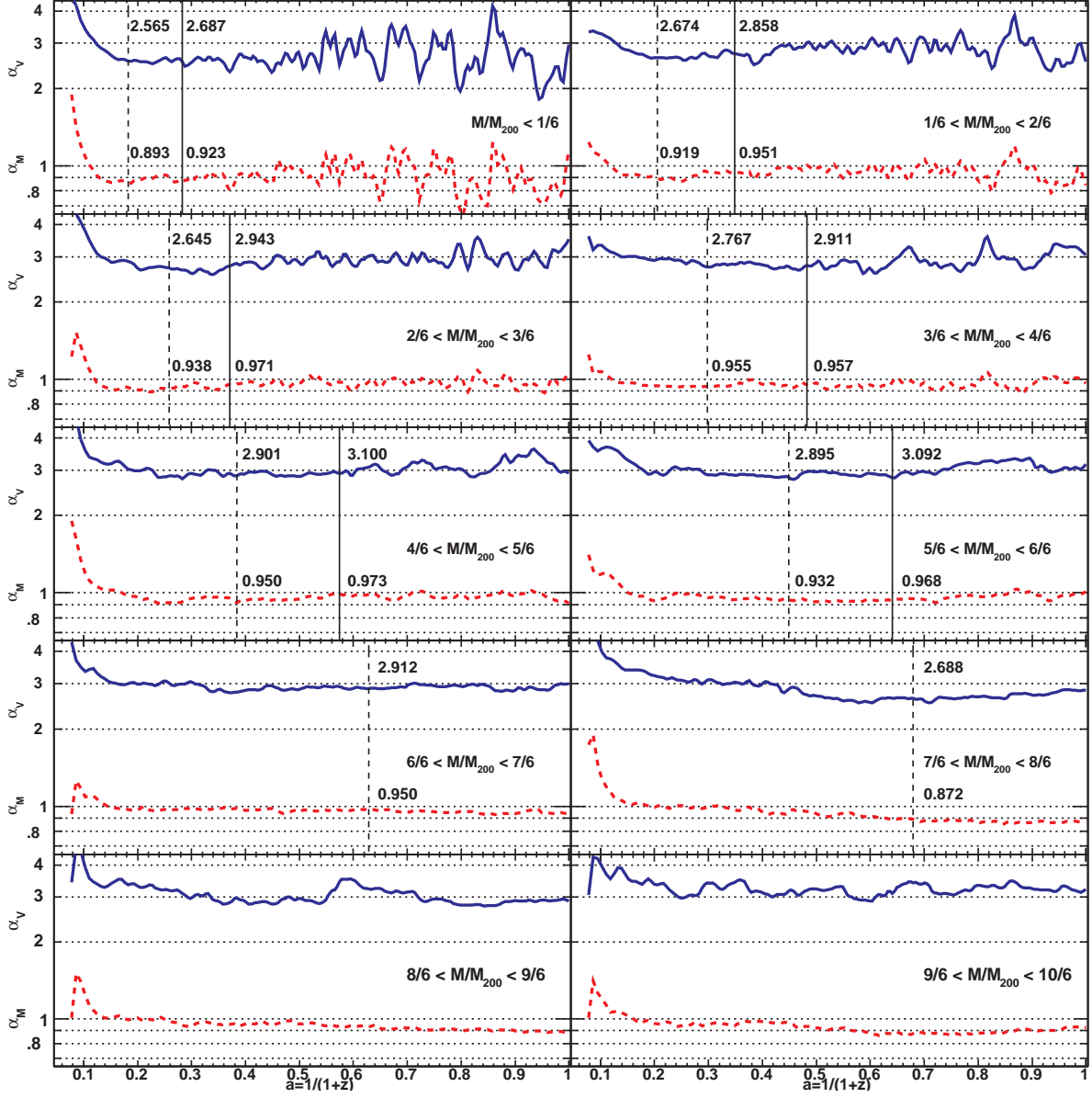
Fig. 7.— Evolution of the slopes of the cumulative subhalo velocity (*solid lines*) and mass (*dashed lines*) function in the same shells as in Fig. 6. Numbers depict the average slopes between the turnaround and stabilization epochs, and from stabilization to the present. The slopes show little trend with time or distance from the main progenitor.
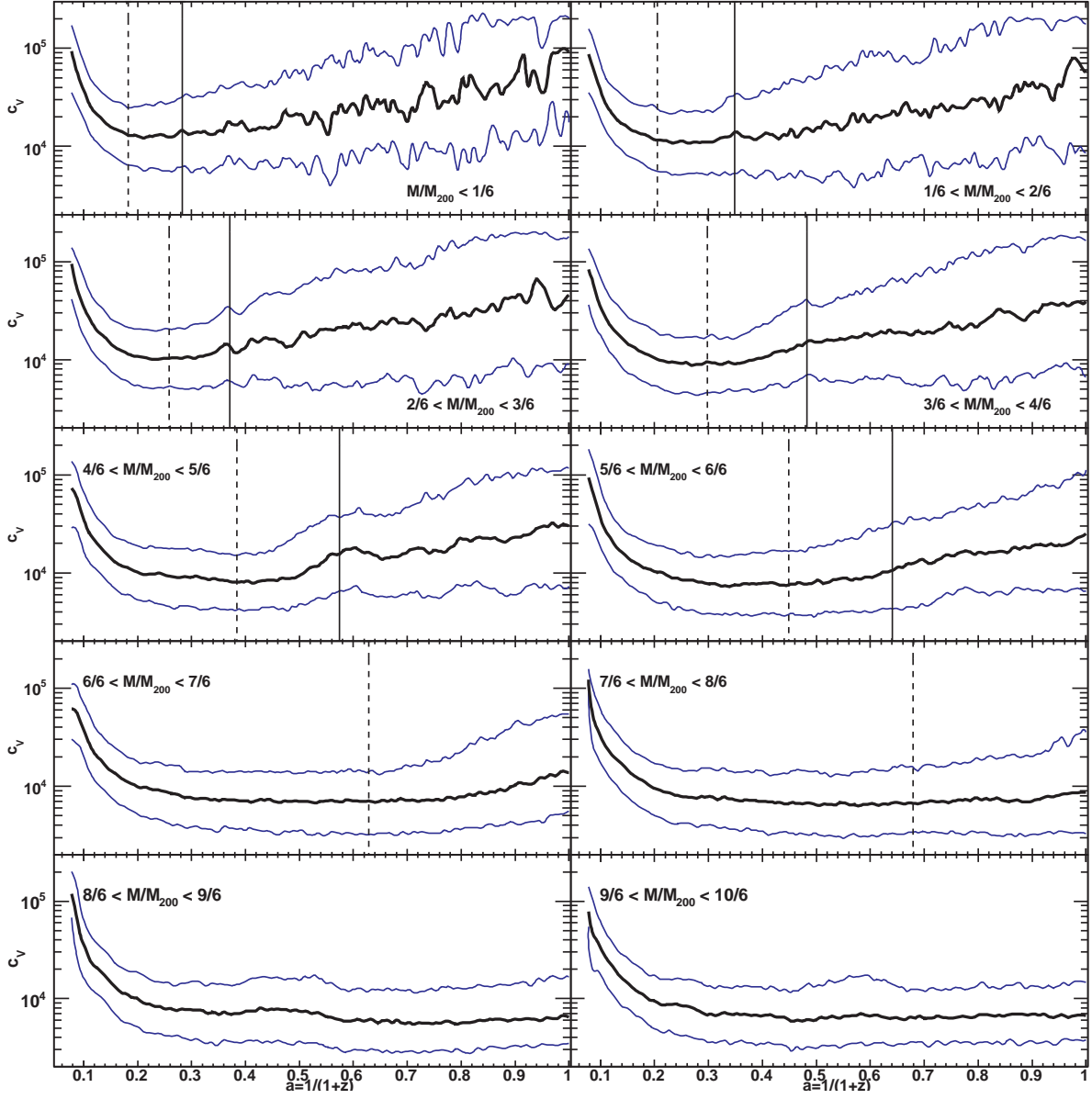
Fig. 8.— Same as Fig. 6, but now the evolution of the median subhalo concentration (*thick line*) is plotted versus scale factor. *Thin line:* 68% scatter around the median. All halos with $V_{\mathrm{max}} > 5$ km/s are included.