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# Baryon drift effects at high redshift

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## Abstract

Relative velocities between the baryon and dark matter fluids at recombination have been shown to influence the growth of structure throughout the Dark Ages and beyond, but are not usually included in cosmological simulations. Previous numerical studies that have included this effect have focused on relatively small boxes of the order of a few Mpc or less, at which scales the relative velocity is coherent. However, this misses out on the large-scale modes of the relative velocities, which correspond to the BAO scale,  $\sim 100$  Mpc. I will present the first large-box cosmological hydrodynamical ‘zoom’ simulations which include the effect of these relative drift velocities and will discuss our methodology and present some results.

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