

Large-scale radiative transfer simulations of reionization: Models and Observability

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Abstract

We have recently performed the first large-scale radiative transfer simulations of reionization. These are run on top of the largest and most detailed simulations of early structure formation to date, with 4.3 billion particles and resolving halos down to dwarf galaxy scale in a very large, $(100 h^{-1} \text{Mpc})^3$, volume. This allowed us for the first time to make realistic observational predictions at the relevant scales about the Epoch of Reionization based on detailed radiative transfer and structure formation simulations. I would present our predictions for the progress and features of reionization under different scenarios and would also discuss in detail the observability of this epoch with upcoming experiments at redshifted 21-cm line of hydrogen, kinetic Sunyaev-Zeldovich signatures and Ly-alpha source surveys.