

Characterizing the sources of reionization in the SPHINX simulation

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The epoch of reionization is the period during which the hydrogen present in the universe is entirely reionized, between $z = 15$ and $z = 6$. The nature of the sources of reionization is still a matter of debate. In this talk I will use the SPHINX simulation to characterize the properties of the galaxies that drive reionization. The SPHINX simulation focuses on the epoch of reionization and describes a cosmological volume of 10 cMpc on a side. It reaches a resolution better than 10 pc in the ISM of all galaxies. This way the escape fraction of ionizing photons from haloes is accurately predicted by the simulation. In this talk I will present preliminary results of my analysis of the SPHINX simulation. In particular I will discuss the relation between the duty cycle of Lyman continuum photon leakage and the dark matter (DM) halo Virial mass. I will also discuss the link between the star formation rate and the number of ionizing photons escaping from DM haloes, and the directionality of these escaping photons. Finally I will discuss the evolution of these results with redshift.

Presenter: Mr CHUNIAUD, Mathieu (CRAL)

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