
BHs and AGN in 6 large-scale cosmological simulations

Melanie Habouzit*¹

¹Max-Planck-Institut für Astronomie – Germany

Abstract

Massive black holes (BHs) are a fundamental component of galaxies and galaxy evolution, but their origin and growth is still far from being understood. We recently compared the BH populations of six large-scale cosmological simulations (Illustris, TNG100, TNG300, Horizon-AGN, EAGLE, and SIMBA). I will review how the sub-grid models of these simulations affect the build-up of the BHs and the co-evolution with their host galaxies. I will also discuss the agreement between the simulations and current observational constraints of the BH population. This is key to prepare future space missions such as JWST, Athena, AXIS, LynX, Roman, and maximize their scientific return.

*Speaker