

An investigation of galaxies at extreme redshifts with deep NIRC*am* and NIRS*pec* observations

Tuesday 4 June 2024 11:25 (20 minutes)

JWST is transforming our understanding of the high-redshift universe and of the epoch of cosmic dawn. In this talk, I will focus on the results from the GLASS-JWST survey and from its follow-up spectroscopic Cycle2 campaign. The first set of GLASS-JWST NIRC*am* observations led to the discovery of two bright photometric candidates at $z\sim 10.5$ and $z\sim 12.2$ providing the first evidence of a puzzling high number density of bright galaxies 300-500 Myr after the Big Bang. A subsequent analysis of GLASS and other programs targeting the foreground cluster A2744 led to the discovery of 7 bright objects at $z>9$ hinting at the presence of an overdensity in the field. I will discuss the implications of these findings for our understanding of early galaxy evolution, and, in particular, I will present the results from the ongoing deep NIRS*pec* spectroscopic follow-up which confirms a high number density of $z>10$ sources in the GLASS/A2744 fields. Finally, I will discuss constraints obtained combining NIRC*am* and NIRS*pec* on the ionizing, AGN and clustering properties of galaxies at the earliest epochs probed so far.

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Galassie e Cosmologia

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