Distant Galaxies with JWST

Emma CURTIS LAKE

(University of Hertfordshire, UK)

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Understanding how galaxies form and evolve across cosmic time is a fundamental goal of extragalactic astronomy. Observations of very distant galaxies—seen as they were in the first few billion years after the Big Bang—offer a direct window into the early stages of galaxy evolution. In this talk, I will give a brief historical overview of how our understanding of these early systems developed prior to the launch of JWST, with a particular emphasis on the critical impact of the interstellar medium (ISM) on the interpretation of distant galaxy observations. I will then highlight some of the major advances in our understanding of high-redshift galaxies enabled by JWST and outline several key open questions that remain. Throughout I will address how local galaxy observations provide context and constraints for interpreting the high-redshift Universe. Finally, I will describe some of the primary techniques used to analyse distant galaxies, showing how they allow us to extract meaningful information from faint and often limited data. This overview will underscore the synergy between cutting-edge observations and methodological innovation in advancing our picture of galaxy evolution.