Results from the JWST Transiting Exoplanet Community Early Release Science Program

Nicolas Crouzet (Leiden Observatory, Leiden University, The Netherlands)
The Transiting Exoplanet Community ERS Team

With a 6.5 meter diameter primary mirror and a wavelength coverage from the visible to the mid-infrared, the James Webb Space Telescope (JWST) is opening new windows to scrutinize transiting exoplanets' atmospheres. It will provide missing clues to understand hot Jupiter's atmospheres such as the relative abundances of molecular species and the thermal structure over a wide range of altitudes, and will probe the atmospheres of smaller exoplanets. The transiting exoplanet community joined forces to define a coherent strategy to evaluate JWST's capabilities during the Early Release Science (ERS) program. The aim is to accelerate the acquisition and diffusion of technical expertise for transiting exoplanet observations with JWST, and to provide representative and compelling datasets that enable immediate scientific breakthroughs. To this end, a set of well chosen transiting exoplanet observations has been executed in the first months of JWST science operations using the four instruments and various observing modes, and has been analysed by our team. In this talk, I will present the results of this program.