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Title: "The James Webb Space Telescope and its Capability for Exoplanet Observations"

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Abstract:

The James Webb Space Telescope (JWST) is a large aperture (6.5 meter), cryogenic space telescope with a suite of near and mid-infrared instruments covering the wavelength range of 0.6 μm to 28 μm . JWST's primary science goal is to detect and characterize the first galaxies. It will also study the assembly of galaxies, star formation, and the formation and evolution of planetary systems. In this presentation we will discuss the status of the JWST project and review the expected scientific performance of the observatory for observations of exosolar planets by means of transit observations, and direct coronagraphic imaging. In particular we will discuss recent simulations of photometric and spectroscopic transit observations that demonstrate the capabilities of JWST to characterize super-earth atmospheres in the light of recent Kepler and Corot discoveries.