Overview of the James Webb Space Telescope

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 goals are to detect and characterize the first galaxies, and study the assembly of galaxies, star formation, and the formation of evolution of planetary systems. JWST is a segmented mirror telescope operating at ~40K, a temperature achieved by passive cooling of the observatory, via a large, 5-layer membrane-based sunshield. We will review the scientific capabilities of JWST in the context of their synergy with survey facilities, and with the next generation of ground-based Extremely Large Telescopes. We will also present an overview of the observatory design, and report on recent progress in the construction of the observatory and its science instruments.