

Third Workshop on Current Challenges in Cosmology



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The Vera C. Rubin Observatory, the LSSTCam, and the Legacy Survey of Space and Time. (Remote Talk)

Tuesday 24 October 2023 14:00 (1 hour)

The Vera C. Rubin Observatory, currently under construction on Cerro Pachón in Chile, will feature an 8.4-meter telescope, the largest digital camera in the world for astronomy (3200 megapixels), an automated data processing system, and an online public engagement platform. Rubin will conduct the Legacy Survey of Space and Time (LSST), and it will operate on an automated cadence, capturing an area the size of 40 full moons and returning to the same area of sky approximately every three nights after imaging the full sky. The Rubin Observatory was the top-ranked large ground-based project in the US 2010 Astrophysics Decadal Survey, and it will advance science in four main areas: the nature of dark matter and understanding dark energy, cataloging the Solar System, exploring the changing sky, and Milky Way structure and formation. Engineering and then science first light is expected in 2023 and full operations for the ten-year survey commencing in the second half of 2024. In this talk, I will introduce the Rubin Observatory, the LSST, and how to get involved via the Data Preview 0 in preparation for the survey. I will additionally focus on the LSSTCam and its detectors, and discuss the impacts of detector and other systematics on weak lensing—a fundamental probe that will be used by LSST and other stage IV surveys—for cosmological investigations.

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