

Report from the Vera C. Rubin Observatory Project Science Team face-to-face meeting, OIR Lab, January 24-25, 2020

The meeting started with the Vera C. Rubin Observatory Construction Director, Steve Kahn, summarizing overall construction progress and discussions at the recent AMCR quarterly meeting (formerly known as AMCL: AURA Management Committee for LSST; L was replaced by R for Rubin Observatory). With recent imminent reduction of commissioning science verification and validation surveys from 5 months to 2 months, construction schedule contingency was increased to 4.5 months. The AMCR remains concerned that the schedule contingency might be insufficient but warned against further squeezing of the allocated commissioning period. The project leadership will work with the NSF on developing a formal request for a no-cost extension to have prepared paper work at hand in case the extension becomes a necessity (unlikely before 2021). Steve also reported that there will be two reviews at the end of the construction: an Acceptance Review, and an Operations Readiness Review.

Amanda Bauer, the Head of Education and Public Outreach team, delivered an informative presentation about the construction progress. Three new members joined the team recently. Amanda showed a number of impressive and exciting new videos, other materials, and interactive online education tools. PST proposed to develop a mechanism for having formal scientific review of the materials and activities that are made publicly available. Amanda is putting together a Citizen Science Data Policy Committee which will ensure that Citizen Scientist projects are consistent with LSST data policy.

Tony Tyson, the LSST Chief Scientist, summarized recent work by his team regarding the impact of Starlink satellite constellation, and reported on SpaceX efforts to decrease the brightness of their satellites. With 48,000 satellites, almost every (85%) LSST visit obtained during twilight will have at least one satellite trail in it. The Project will need to deliver a summary report to the agencies in a few months.

Bob Blum, the Acting Vera C. Rubin Observatory Operations Director, reported on activities by his team, including preparations of the Operations Proposal to be submitted to the funding agencies this year and receiving 40 Letters of Intent for in-kind contributions from international groups. Bob also discussed the impact of reduction in the duration of commissioning science verification and validation surveys on early science with LSST and suggested that we might need to modify observing cadence somewhat to mitigate negative effects.

Sandrine Thomas, Steve Ritz and Leanne Guy, the Subsystem Scientists for the Telescope and Site, Camera and Data Management subsystems, respectively, presented progress reports. The highlights from all three subsystems include: the dome structure is essentially complete, rotation is implemented and cladding is 60% complete; the azimuth track for the Telescope Mount Assembly is by and large installed; all the

camera rafts are inserted (a press release is imminent). Data Management reported a new release of Science Pipelines, with highlights including a new deblending package and improvements to image differencing pipeline and calibration pipeline. Other accomplishments include AWS processing using Gen 3 butler and activation of 100 Gbit/s link between Brazil and Florida.

Chuck Claver, the System Integration Testing and Commissioning Manager, and Sandrine Thomas, reported substantial progress with Auxiliary Telescope, including the installation of the LATISS spectrograph and successful cross-subsystem integration involving all three subsystems.

Zeljko Ivezić, the Vera C. Rubin Observatory Construction Deputy Director and LSST Project Scientist, delivered status update on the cadence optimization work by Lynne Jones and Peter Yoachim at the University of Washington. Over 100 simulated LSST surveys, that incorporate optimization suggestions extracted from over 40 white papers submitted by the community, will be delivered in about two to three months. Zeljko, Michael Strauss, the chair of LSST Science Advisory Committee (SAC) and Bob Blum, the Acting Director of Operations, discussed the imminent formation of SAC's Cadence Optimization Committee and the process it will use to select and recommend a baseline cadence strategy for the first year of the Rubin Observatory Legacy Survey of Space and Time.