

Progress made in construction of Fred Young Submillimeter Telescope

May 9 2022, by Linda B. Glaser



A hole 22 meters in diameter near the summit of Cerro Chajnantor in Chile's Atacama Desert, at an elevation of 18,400 feet stands ready for the cement foundation on which the Fred Young Submillimeter Telescope will one day rest. Credit: Cornell University

An enormous hole 22 meters in diameter has been dug near the summit

of Cerro Chajnantor in Chile's Atacama Desert, at an elevation of 18,400 feet. The hole stands ready for the cement foundation on which the Fred Young Submillimeter Telescope (FYST, pronounced "feest") will one day rest. The foundation, which was designed in Chile, began construction in the fall of 2021 and is scheduled to be installed at the summit from May to June.

The entire telescope is being constructed and pre-assembled in Germany, and will be disassembled into 10–12 large pieces and transported to Chile for reassembly. The road that will carry the massive parts of the telescope to the summit has now been laid, and installation of the more than nine kilometers of power and optical fiber cables is already underway.

"We're very excited by how well the [construction](#) is proceeding," said Terry Herter, project director and professor of astronomy in the College of Arts and Sciences. "Despite COVID-19, labor shortages and supply chain challenges, we're anticipating first light in 2024."

The FYST features a novel optical design with high precision mirrors 6-meters (nearly 20-ft) in diameter. It will deliver a [high-throughput](#), wide-field of view that will be able to map the sky rapidly and efficiently at submillimeter to millimeter wavelengths. Project scientists are looking forward to collecting data that will give them insight into the universe's earliest days, when the first stars were born after the Big Bang—what researchers call "cosmic dawn." It will also play a role in the search for [gravitational waves](#) and dark matter.

Provided by Cornell University

Citation: Progress made in construction of Fred Young Submillimeter Telescope (2022, May 9) retrieved 4 June 2024 from

<https://phys.org/news/2022-05-fred-young-submillimeter-telescope.html>

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