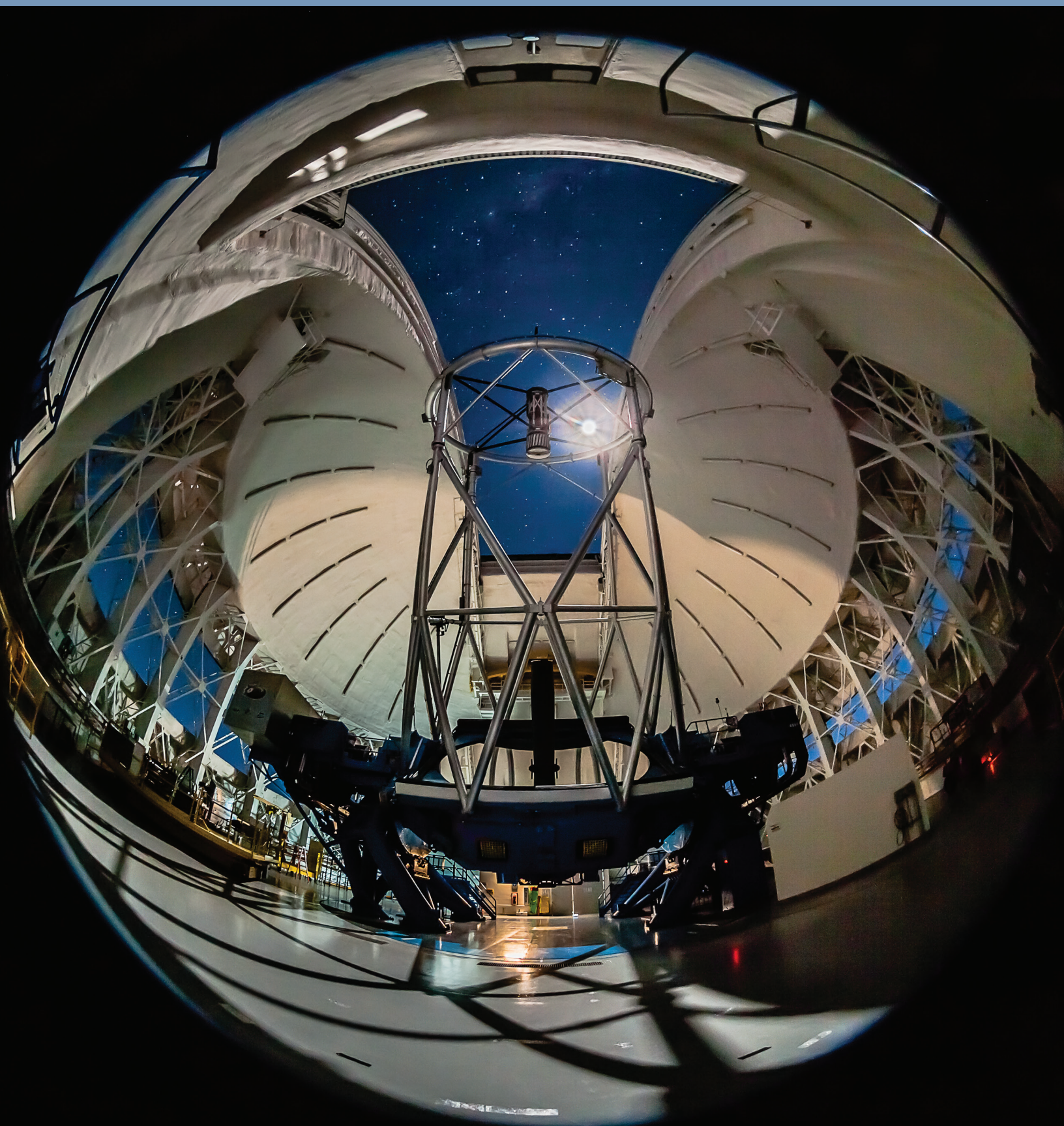


# A Moonlit Giant



*Gemini Observatory Legacy Image*

*Image Credit: Gemini Observatory/AURA/Manuel Paredes*



The Gemini Observatory is operated by the Association of Universities for Research in Astronomy, Inc., under a cooperative agreement with the National Science Foundation on behalf of the Gemini Partnership.



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## A Moonlit Giant

This stunning photograph, taken with a fish-eye lens from inside the Gemini South dome, shows the telescope in its altazimuth mount, pointing just high enough so that its giant 8-meter primary mirror is visible.

The full Moon (seen blocked by one of the telescope's trusses) illuminates both the dome's interior and the night sky. The sky appears blue because the Moon reflects light from the Sun, whose blue wavelengths of light are most effectively scattered by molecules in Earth's atmosphere (just like in the daytime sky). Note also the dome's open vent gates; these remain open during observing runs (when winds are relatively light) to help equalize air temperatures inside and outside the dome.

The Gemini South telescope is located at 2,737 meters (8,980 feet) elevation on Cerro Pachón, a mountain in the Chilean Andes. It is one of two 8-meter telescopes operated by the Gemini Observatory and managed by the Association of Universities for Research in Astronomy (AURA); the other, the Frederick C. Gillett Gemini North telescope, is located near the summit of Maunakea on the island of Hawai'i.

## Gemini Observatory Facts

### PRIMARY MIRRORS:

Diameter: 8.1 meters; 26.57 feet; 318.84 inches

Mass: 22.22 metric tonnes; 24.5 U.S. tons

Composition: Corning Ultra-Low Expansion (ULE) Glass

Surface Accuracy: 15.6 nm RMS (between 1/1000 - 1/10,000 thickness of human hair)

### TELESCOPE STRUCTURES:

Height: 21.7 meters; 71.2 feet; 7 stories (from "Observing Floor")

Weight: 380 metric tonnes; 419 U.S. tons

Optomechanical Design: Cassegrain; Alt-azimuth

### DOMES:

Height: 46 meters; 151 feet; 15 stories (from ground)

Weight: 780 metric tonnes; 860 U.S. tons (moving mass)

Rotation: 360 degrees in 2 minutes

Thermal Vents: 10 meters; 32.8 feet (width – fully open)

### GEOGRAPHICAL DATA:

Elevation: Gemini North: 4,214 meters; 13,824 feet / Gemini South: 2,737 meters; 8,980 feet

Location: Gemini North: 19°49.4'N; 155°28.1'W / Gemini South: 30°14.5'S; 70°44.8'W

To see this, and many other images, please visit: <http://www.gemini.edu/legacyph>