





Gemini South at Twilight

The Gemini South telescope is located at an elevation of 2,737 meters on a mountain in the Chilean Andes named Cerro Pachón. Cerro Pachón shares resources with the adjacent SOAR Telescope and the nearby telescopes of the Cerro Tololo Inter-American Observatory. It is expected that the Large Synoptic Survey Telescope (LSST) will join Gemini on Cerro Pachón during the second half of this decade.

Both of the Gemini telescopes (Gemini North is in Hawai'i) are designed to excel in a wide variety of optical and infrared capabilities. By incorporating technologies such as laser guide star adaptive optics and multi-object spectroscopy, astronomers in the Gemini partnership explore the universe in unprecedented depth and detail.

Gemini is operated by an international partnership that includes the United States, United Kingdom, Canada, Chile, Australia, Brazil and Argentina. Any astronomer in each partner country can apply for time on Gemini with is allocated in accordance with the amount of financial support provided by each country.

The Gemini telescopes have been integrated with the latest networking technologies to allow remote operations from control rooms at the base facilities in Hilo, Hawai'i and La Serena, Chile. With the flexibility of "Queue Scheduling" and remote participation, researchers anywhere in the Gemini partnership will be assured the best possible match between observations, instruments and observing conditions.

Gemini Observatory – Facts and Figures:

Primary Mirror:

Diameter: 8.1 meters/26.58 feet/319 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 Structure:

Height: 21.7 meters/71.2 feet/7 stories (from "Observing Floor")
Weight: 380 metric tonnes/418 U.S. tons
Optomechanical Design: Alt-azimuth/Cassegrain

Dome:

Height: 46 meters/151 feet/15 stories (from ground)
Weight: 780 metric tonnes/858 U.S. tons (moving mass)
Rotation: 360 degrees in 2 minutes
Thermal Vents: 10 meters/32.8 feet (width – fully open)

Other 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

Go to: www.gemini.edu/images to see this and other images.