



APEX

Infrastructure

The APEX telescope site is located on the site of Chajnantor at 5100m in the Andes in Northern Chile, inside the ALMA science preserve. The telescope is operated from the APEX base near the village of San Pedro de Atacama. The distance between the telescope and the base is about 50 km.



The APEX telescope at sunset with Cerro Chajnantor in the background.

The APEX telescope site

The telescope is operated from a set of containers, which includes a control room, laboratory, kitchen, toilet and storage.



The APEX telescope site seen from one of the nearby hills. The containers are in front of the telescope and the white power house containing the generators can be seen to the right.

Electrical power to the telescope and its infrastructure is provided by two generators, each with a capacity of 450 kVA at sea level, but downgraded to 250 kVA because of the high altitude. There is also a weather station and a microwave link to the base in San Pedro for remote control. The telescope site is accessed through a paved road for the first 60 km, which is the international road to Argentina (Paso de Jama road), and then through a dirt road for the last 14 km.

The APEX base in Sequitor

The APEX base is located to the south of the center of San Pedro in an area called Sequitor. It is situated inside the oasis of San Pedro, and it has a size of 2.2 ha with trees and sand dunes.. The buildings consist of a control-room/office/laboratory building, 16 dormitories, a cafeteria, a meeting room and a storage area. The electrical power is generated by two generators. The base contains a gasoline station, solar power heaters for hot water and a sewage treatment plant. Water is provided through the local water supply from San Pedro.

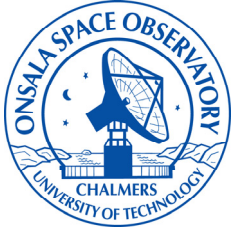
Communications

For remote control and communications between the sites there is a microwave link with a speed of 36 Mb/s that connects the base to the telescope site. To the outside world there is a 512 kb/s link internet connection and two telephone lines. The telescope can be operated remotely from the base, or through the internet connection from anywhere in the world.

Logistics

APEX is operated by a team of 25 people, which includes astronomers, engineers, technicians, administration and cleaning. Most of the staff does not live in San Pedro, but commutes to San Pedro by air through the airport in the nearest city called Calama. The work is shift work with shifts of 8 days at APEX and 6 days off. The food is provided through a local catering company. Because of the remote location of the site, most supplies have to be provided from Calama or from Santiago.

Due to the high altitude of the telescope site, people do not sleep on Chajnantor. They travel between the Sequitor base and Chajnantor on a daily basis for telescope maintenance and operations. The staff and guest observers generally use oxygen during work at the high site and are medically screened for work at high altitude.



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The APEX base in Sequitor with dormitories and office building.

