Table Mountain Observatory
A Brief History of Research at Table Mountain

- 1920 Smithsonian Astrophysical Observatory established field stations worldwide to augment measurements taken in Washington, D.C. Purpose: to give solar constant values over diverse locations.

- 1924: County of Los Angeles, who owned the land as part of Big Pines County Park, granted the Smithsonian permission to build a field station on Table Mountain.

- 1925: Official opening of the Table Mountain Facility.

- 1961: After three decades on continuous observations, the Smithsonian ended their work.

- 1962: JPL obtained a Special Use Permit from the U.S. Forest Service and purchased all the original Smithsonian buildings and structures for $12,000.

- 1962 to present: A number of ongoing research programs have been developed and continue to operate.
LIDAR
(Light Detecting and Ranging)
OCTL
(Optical Communication Telescope Laboratory)
Table Mountain Observatory Currently Operates One 0.6m Telescope

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<tr>
<th>Astro Mechanics 0.6m</th>
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<td>Astro Mechanics 0.6m, f/16 or 36 (coude focus) Ritchey-Chretien reflector on a German off-axis equatorial mount. Installed in 1966.</td>
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Located in Building TM-12. The telescope operating system is called TCP (Telescope Control Program) and was developed at TMO specifically for the 0.6m.
NEO Photometry at Table Mountain
A Near Earth Object (NEO) is an asteroid with a perihelion distance less than 1.3 AU. Our effort to find and collect observations on these objects is important because they pose a potential impact risk to the earth.
This map shows the positions of all known asteroids in the inner solar system. Red and Yellow objects are potentially hazardous to the Earth.
Photometric studies allow us to determine an asteroid's rotation, reflectivity (Albedo) as a function of wavelength to determine taxonomic type, which constrains surface composition. Light curve amplitudes, which constrains shape. Relative photometry is a method of measuring magnitude changes of an object relative to the magnitude of the stars in the background.
An asteroid's magnitude will change as it rotates. These changes are measured and analysed and the end result shows us a period rotation for the asteroid.
Asteroid Albedo as a function of slope coefficient
NEO Astrometry at Table Mountain
Astrometry is the process of measuring the position of an object. When we observe an object we take several observations over a span of time and submit the data to the Harvard's Minor Planet Center (MPC). There they can use our data to determine the orbital path the object might be following.
"It is not the answer that enlightens, but the question."

"The most important thing is not to stop questioning."

Any Questions?