

The Magdalena Ridge Observatory 2.4-meter telescope is primarily utilized to observe, track, and characterize solar system astronomical targets, artificial Earth satellites, space vehicles, and terrestrial military targets.

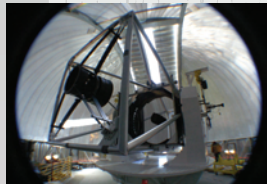
The operational goals of the 2.4-meter telescope facility include:

- Conducting classical astronomical research
- Addressing national security concerns (satellite remote sensing, space surveillance, and missile tracking)
- Supporting and enhancing education and public outreach

The telescope's rapid tracking capability (10 degrees/second) facilitates studies of fast-moving asteroids, comets, and resident space objects in low-Earth orbits. Its ability to point low on the horizon enables access to targets typically only observable from the Southern Hemisphere.

The observatory is also used to enhance traditional classroom coursework through laboratory observing exercises. Tours for school and community groups are conducted throughout the year to promote science education and science/technology-based careers. Programs involve in-service teachers and curriculum development.

First light occurred on October 31, 2006 and regular operations began in September 2008. Major science milestones include discovering the three fastest spinning asteroids in the Solar System, acquiring data on the variability of Pluto's atmosphere through occultation studies, and supporting NASA's spacecraft missions via astrometry and the acquisition of physical data for mission targets.



The observatory hosts a NASA-funded program to obtain astrometry and photometry of potentially hazardous near-Earth objects, and an NSF-funded program to determine the spin rates of Earth-crossing asteroids. Air Force-funded projects involve tracking and characterizing satellites in low-Earth orbit.

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