









The Magdalena Ridge Observatory (MRO) is located on 1000 acres at 10,600 feet in the Magdalena Mountains of the Cibola National Forest in Socorro County, New Mexico. This multi-faceted/multi-use research and educational observatory is built and operated by the New Mexico Institute of Mining and Technology (NMT) with offices located on the NMT campus in Socorro.

The Magdalena Ridge Consortium, Inc. was formed in January 1996 and the first design for the observatory was commissioned in 2000. In July 2004 a memorandum of agreement was signed with the Cavendish Laboratory of the University of Cambridge, UK for the design of Magdalena Ridge Observatory Interferometer (MROI).

The MRO consists of two major facilities: an operational 2.4-meter fast-tracking telescope and the MROI, a ten-element optical/infrared interferometer.

The 2.4-meter telescope, which achieved first light in October 2006 and began operations in 2008, has three basic objectives:

- To conduct classical astronomical research
- Study Near Earth Objects (NEO) both natural and man-made
- To support and enhance education through public outreach

The MROI array simulates single dish telescopes that can range in size from 7.5 to 340 meters in diameter. Its mission is threefold:

- To provide a scientific research tool for the professional astronomy community
 - To act as a space situational awareness resource
- To provide an educational resource to the community at large

MRO IN NUMBERS

- MRO is the 3rd highest optical/ infrared observatory in North America (including Hawaii).
- The 2.4-meter telescope moves at 10 degree/second slew speed, one of the fastest in the world.
- The MROI delay line cart moves over a 200 meter path with a smoothness of 5 nanometers – tha is 5 thousandths of a hair strand diameter!

MRO FACTS

- 2.4-meter telescope primary mirror is 1 of 3 originally intended for the Hubble Space Telescope.
 - MROI's angular resolution will range from 0.3 to 60 milliarcseconds (mas); the size of a car on the Moon, as seen from Earth, is 1 mas and Hubble's resolution is 170 mas!



TO MRO OFFICES:

From I-25 take exit 150 onto California St, Socorro. Turn west on College Ave. onto NMT campus. Turn right on Canyon Rd, then within ½ mile, turn right on East Rd. The Research Office Building is ¼ mile on the right.

TO MRO OBSERVATORY SITE:

New Mexico Tech

From I-25 take exit 150 proceed south on Caifornia St. ½ mile, then turn west on Spring Street/Highway 60 west. Continue approx. 15 miles to mile marker 125. Turn left on Water Canyon Rd. and follow Forest Rd. 235 for 12 miles to the Observatory gate.

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