

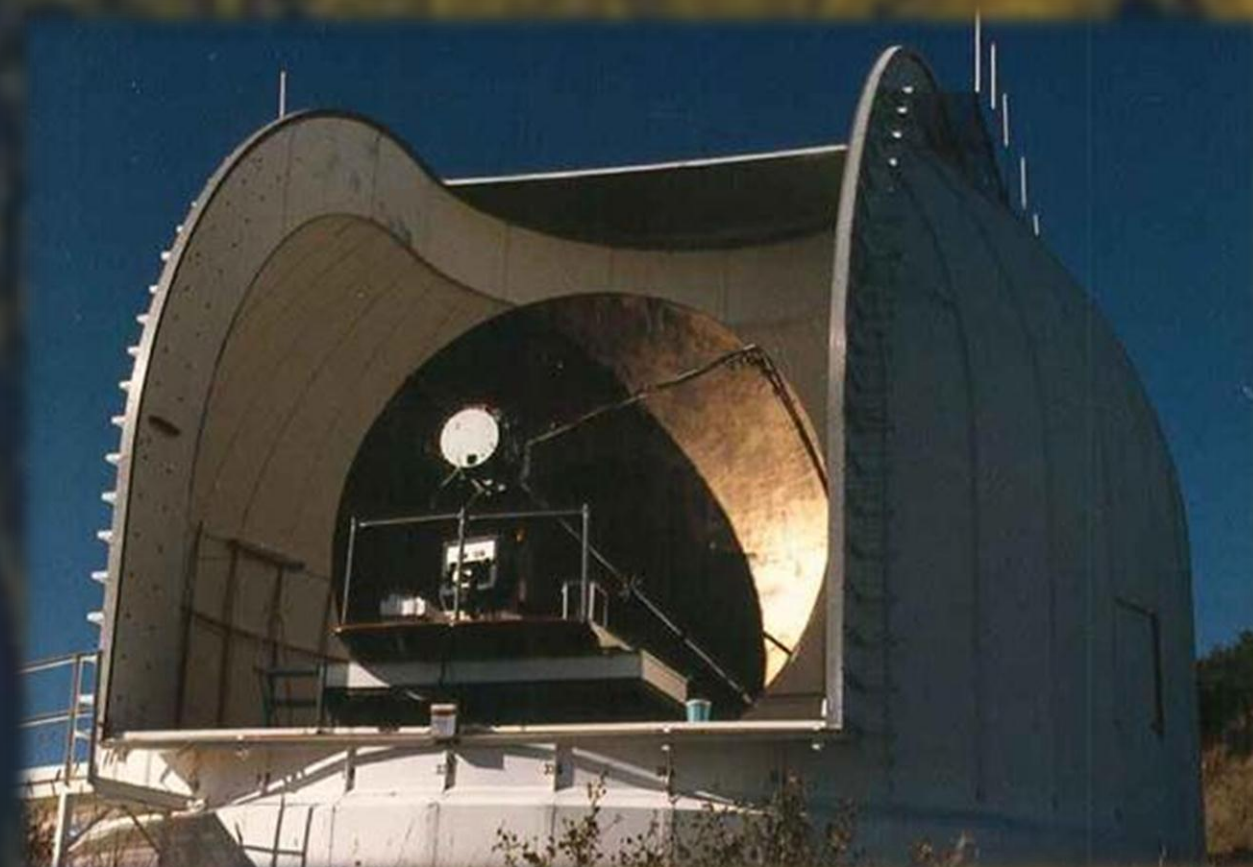
Progress on the installation of the 5 meter radio telescope in the Sierra Negra volcano

Orozco B., Mendoza E., Lara A., Hiriart D., De La Luz V.H., Luna A., Zazueta S., Meza J., Palacios J.S., Rodriguez B., Tlatelpa Y., Lazo F., Garcia B., Garcia U., Vazquez-Robledo R., Cordero A., Quintero A., Pastrana A., et al.

Abstract

The 5 meter Radio Telescope (RT5), is a joint project between the National Institute of Astrophysics, Optics and Electronics (INAOE), the Institute of Geophysics of the Universidad Nacional Autonoma de México (UNAM) and the Institute of Astronomy of the UNAM Campus Ensenada (IAUNAM E) in order to reinstate the "16-foot radiotelescope Gold Coated Dish" donated by the University of Texas at Austin. The RT5 operated in the McDonald Observatoy in Ft Davids Texas for over two decades, until the 80s. And now it is being reinstalling in the Sierra Negra volcano, Puebla, Mexico. Since the grant was only the mechanical part (plate, frame, engine). A group of INAOE, UNAM, and other institutions, are developing the technology of the receivers, automation, electronics and software. We present recent progress in the implementation of the antenna, both of the control system and the receivers.

Reinstallation



RT5 when in the McDonald Observatory, USA.



Moving to INAOE



Installed in INAOE.



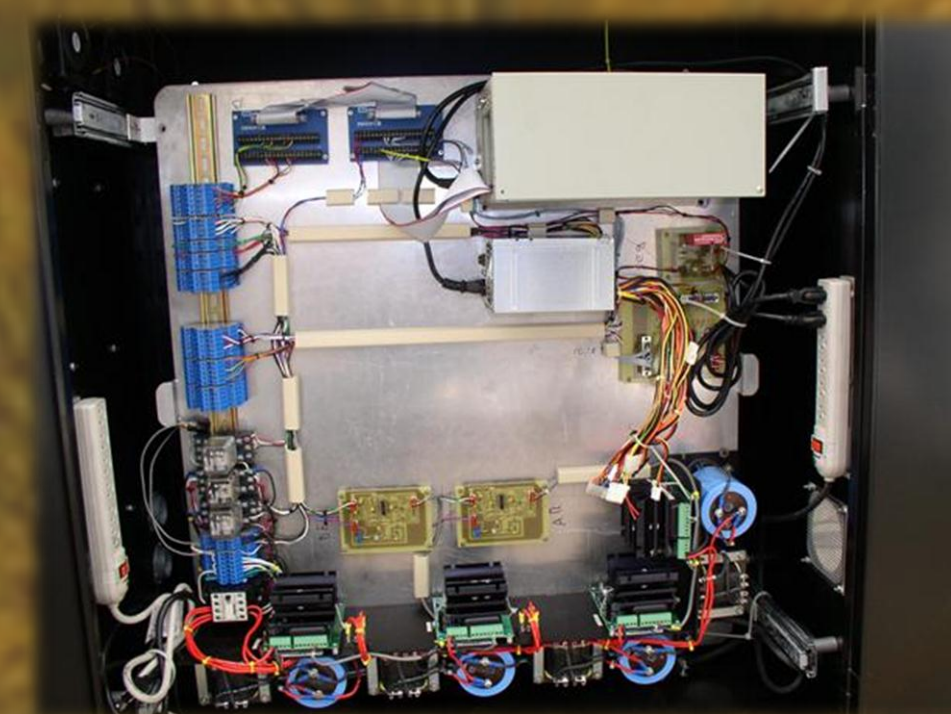
Control Room



Dome reconstruction



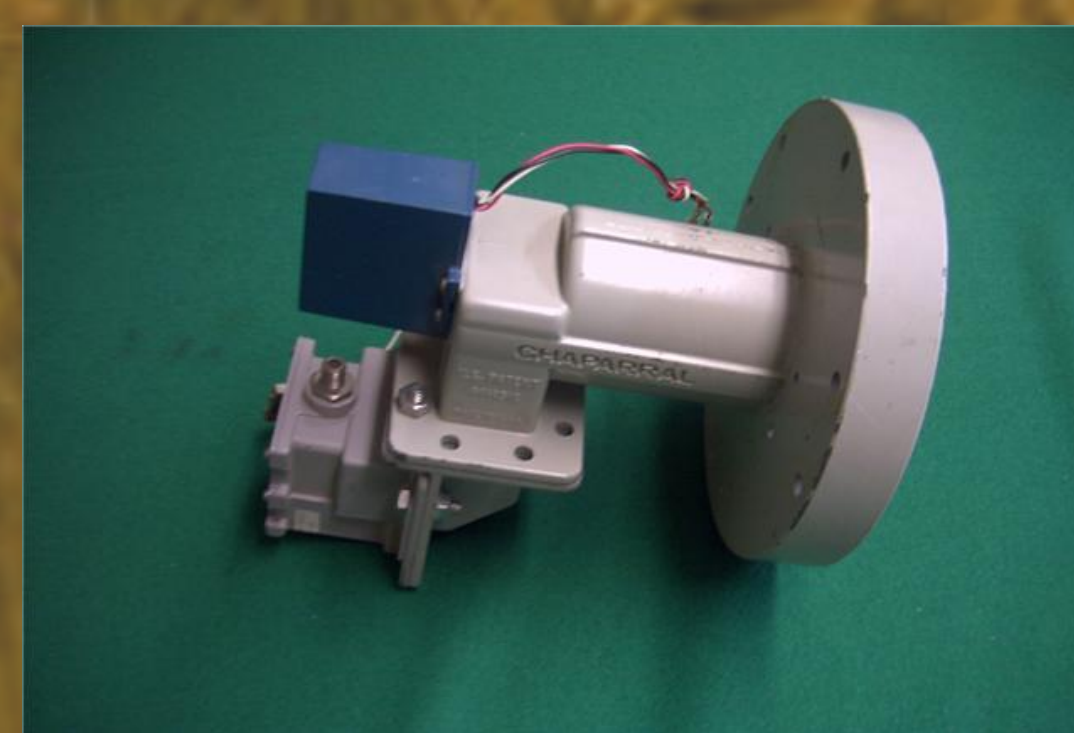
Instrumentation



Control system



Inclinometer



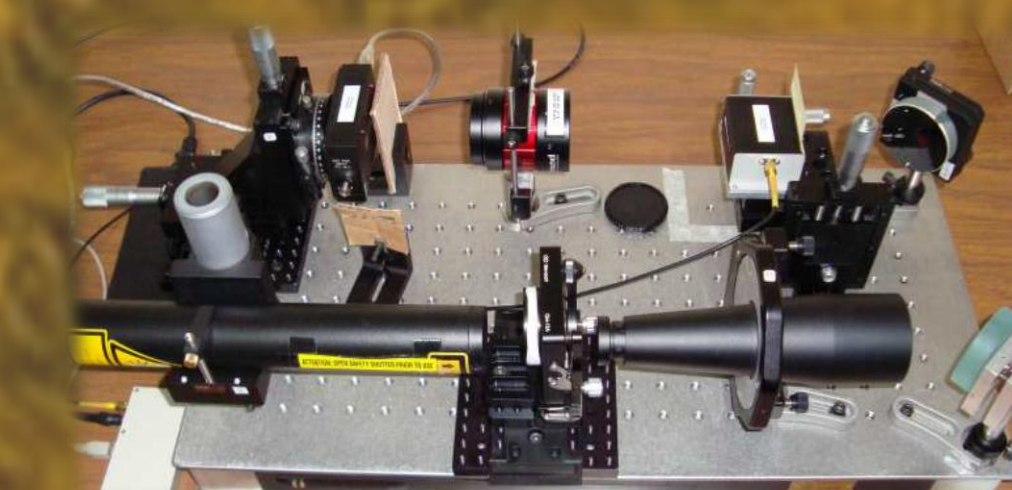
3.9Ghz Receiver



43Ghz Receiver

7.5 GHz Receiver

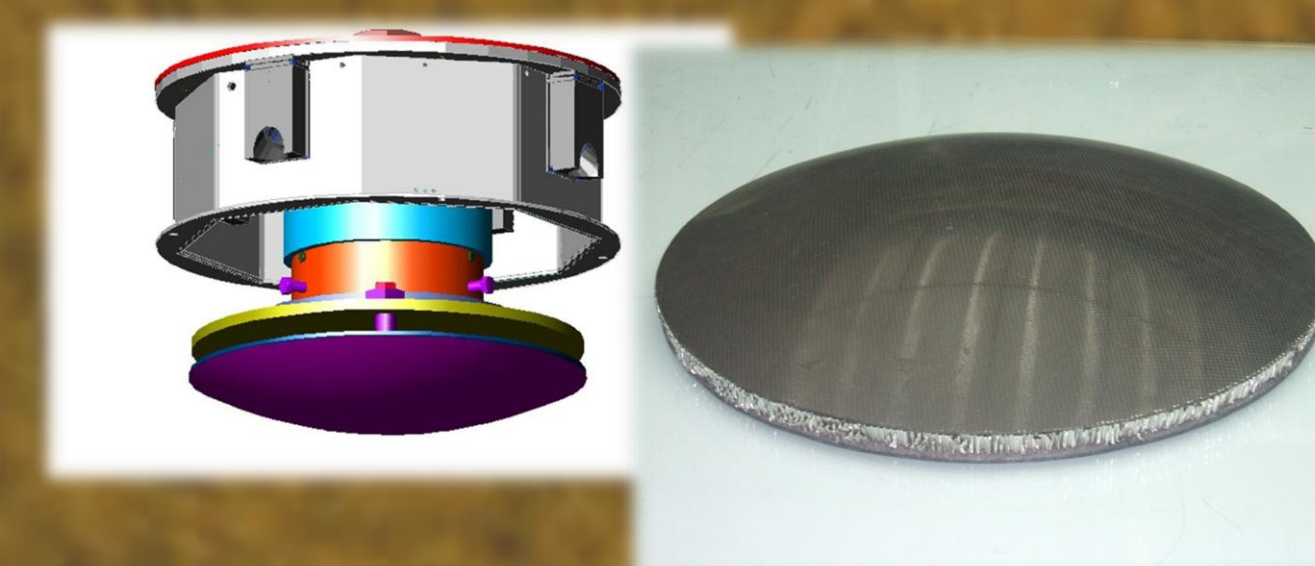
90 GHz Receiver



Acousto-optic Spectrograph



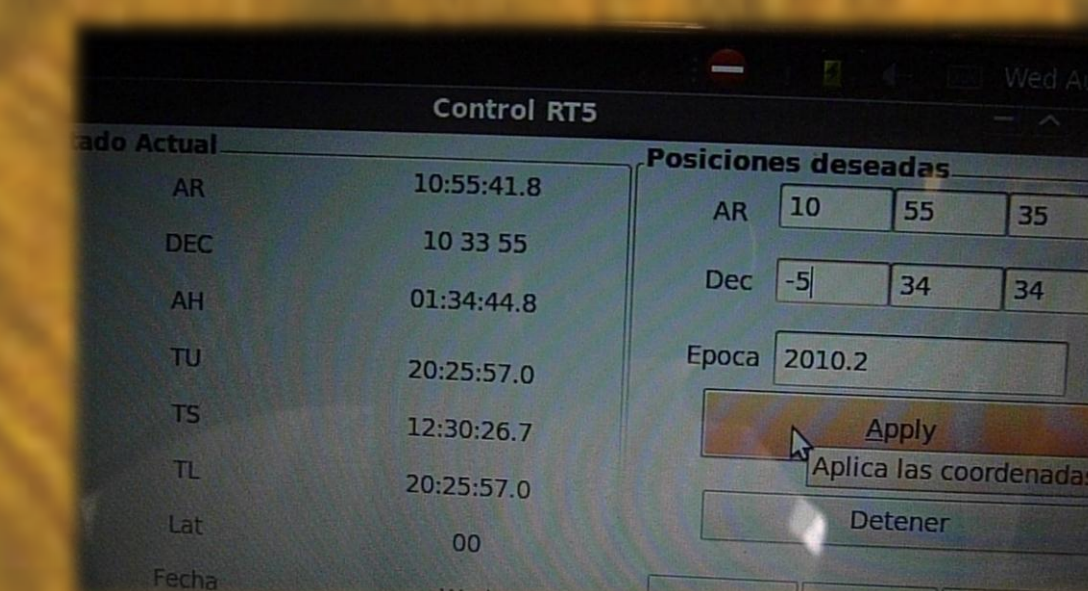
Resistivity system design



Secondary mirror

- 2-3GHz Spectropolarimeter
- 43 GHz receiver Peltier cooled cryostat

Software



Control System User Interface

Control system
Ethernet
communication

User Interface

Automatic
Zenith Detector

Automatic
tracking of the
sun & moon
algorithms

Automatic
pointing
satellites

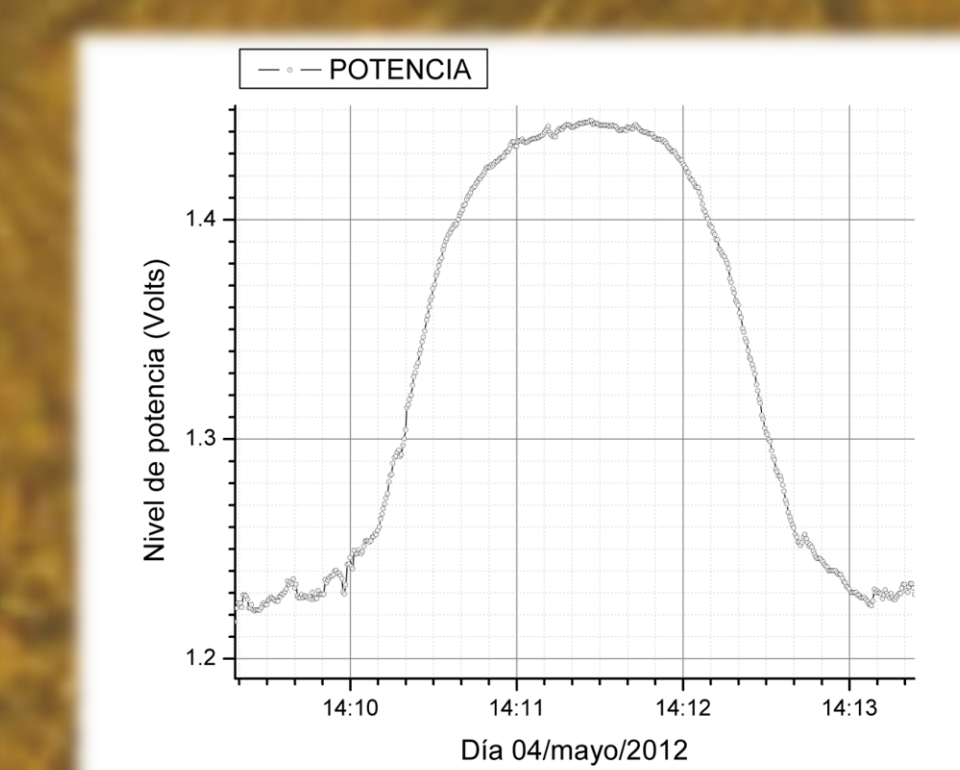
Web page

Receivers Data
acquisition
software

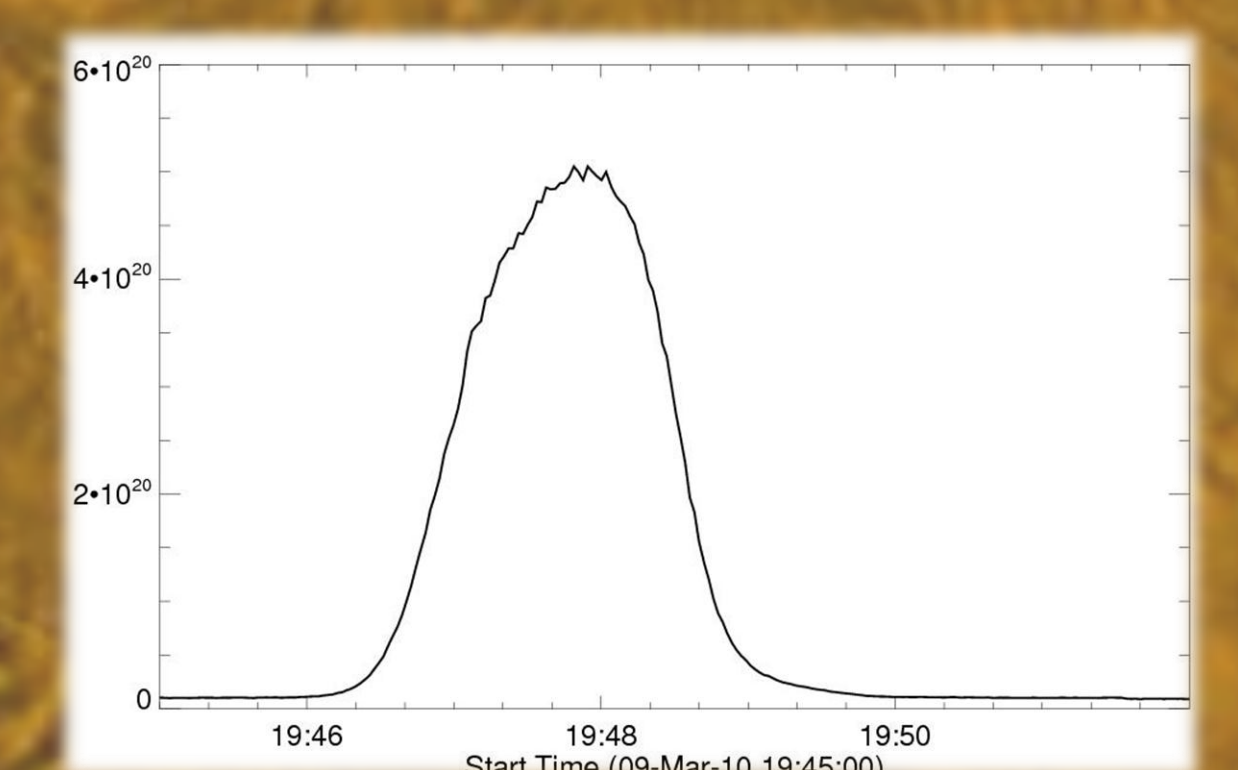
Automatic Log
Book generator

Soft stop of
telescope

Tests



Sun @ 90GHz



Sun @ 43GHz