

**Basics of Radio Astronomy** by Diane Fisher Miller

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**Basics of Radio Astronomy**    (*click on any [blue highlighted](#) heading below*)

[Introduction](#)

[Chapter 1. Overview: Discovering an Invisible Universe](#)

[Chapter 2. The Properties of Electromagnetic Radiation](#)

[Chapter 3. The Mechanisms of Electromagnetic Emissions](#)

[Chapter 4. Effects of Media](#)

[Chapter 5. Effects of Motion and Gravity](#)

[Chapter 6. Sources of Radio Frequency Emissions](#)

[Chapter 7. Mapping the Sky](#)

[Chapter 8. Our Place in the Universe](#)

[Appendix:    A. Glossary](#)

[B. References and Further Reading](#)

[Index](#)

[Quiz](#)

[Answer Key](#)

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[http://www.cnde.iastate.edu/staff/swormley/eo/radio\\_astronomy.html](http://www.cnde.iastate.edu/staff/swormley/eo/radio_astronomy.html)

<http://www.jpl.nasa.gov/radioastronomy/index.htm>

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## **Goldstone-Apple Valley Radio Telescope (GAVRT)**

<http://www.jpl.nasa.gov/radioastronomy/whatis.htm>

In a collaborative effort, the Lewis Center for Educational Research in Apple Valley, California, the Apple Valley Unified School District, the Jet Propulsion Laboratory, and NASA have converted a 34-meter antenna at NASA's Deep Space Network's Goldstone Complex into a unique interactive research and teaching instrument available to classrooms throughout the United States, via the Internet.

The Goldstone-Apple Valley Radio Telescope (GAVRT) is located in a remote area of the Mojave Desert, 40 miles north of Barstow, California. The antenna, identified as DSS-12, is a 34-meter diameter dish, 11 times the diameter of a ten-foot microwave dish used for satellite television reception. DSS-12 has been used by NASA to communicate with robotic space probes for more than thirty years. In 1994, when NASA decided to decommission DSS-12 from its operational network, a group of professional scientists, educators, engineers, and several community volunteers envisioned a use for this antenna and began work on what has become the GAVRT Project.

The GAVRT Project is jointly managed by the Lewis Center and the DSN Science Office, Telecommunications and Mission Operations Directorate, at the Jet Propulsion Laboratory.

This radio telescope workbook was developed as part of the training of teachers and volunteers who will be operating the telescope. The students plan observations and operate the telescope from the Apple Valley location using Sun workstations. In addition, students and teachers in potentially 10,000 classrooms across the country will be able to register with the center's Web site and operate the telescope from their own classrooms.

For help with questions regarding operation of the GAVRT, contact **Bob McLeod** at the Lewis Center for Educational Research. [Bob\\_McLeod@eee.org](mailto:Bob_McLeod@eee.org)