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Contributions to Radio Astronomy by Pre-College Students Participating in the GAVRT Science Education Partnership

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When the Cassini spacecraft flew past Jupiter in January 2001, students and their teachers across the U.S. performed ground-based radio astronomy observations of Jupiter that contributed to the calibration and the interpretation of the spacecraft observations. These students and teachers are participants of the Goldstone-Apple Valley Radio Telescope (GAVRT) science education partnership involving NASA, the Jet Propulsion Laboratory (JPL) and the Lewis Center for Educational Research (LCER) in Apple Valley, California. The 34-m GAVRT radio telescope, decommissioned from NASA's Deep Space Network in 1996, is remotely controlled from classrooms across the country.

GAVRT provides curriculum based projects that include studies of the radio emission from Jupiter and its radiation belts, observations of the microwave temperature of Uranus, support for multi-antenna Mars radar experiments, and studies of the intra-day variability of Quasars. Science leadership is provided by professional scientists who establish the science objectives, interact with the students, validate data and publish the results of the GAVRT observations. Here the authors report the science products of these GAVRT projects and discuss the impact of student participation in the partnership.

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