



# ARECIBO REBORN

*Arecibo's refurbished 1,000-foot dish, largest in the world, dwarfs four men walking on its new aluminum-panel surface.*



*One perforated panel seen from below.*

The largest radio telescope antenna in the world, the 1,000-foot dish of Arecibo Observatory in Puerto Rico, is now about ready to begin studies in frontier areas of astronomy it was never before able to do. An extensive modernization program that began in late 1972 (SN: 12/30/72, p. 425) is now virtually completed. A new surface of 38,778 adjustable aluminum panels, replacing the old wire-mesh surface, is now in place, and new electronics equipment has been installed. Dedication ceremonies are scheduled for Nov. 16. The new surface allows the observatory to detect radio emissions down to wavelengths of about 7 centimeters, far shorter than the previous 50-centimeter limit. This improvement will bring a far greater range of astronomical objects and interstellar molecules into reach. It will permit observations of interstellar hydrogen and such molecules as methyl alcohol and formaldehyde. The narrow beam of the telescope at these wavelengths, coupled with the enormous collecting area of the dish and new maser receivers, will enable radio astronomers to detect and distinguish clearly some 100,000 cosmic radio sources, including the rather faint emissions from the edge of the observable universe. The National Science Foundation funds Arecibo; Cornell University operates it.

—K.F.



Photos: Cornell University/Russell C. Hamilton

*Surface glimmers in mountain setting.*

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