



One of these 30-meter-diameter radio telescopes, situated not far from Buenos Aires, Argentina, begins a nonstop search for alien radio transmissions on October 12th. Its observations will complement a search program already under way in Massachusetts. Photograph courtesy the Argentine Institute of Radioastronomy and the Planetary Society.

## SETI's Ups and Downs

Ever since astronomer Frank Drake first attempted to "listen in" on interstellar radio broadcasts 30 years ago, the search for extraterrestrial intelligence (SETI) has endured its share of scientific and political scorn. Today a handful of professionals continue the SETI quest, and they are experiencing mixed success.

Perhaps the only good news comes from Harvard's Paul Horowitz, who continues to conduct a round-the-clock search effort begun in 1983 with a 26-meter-diameter radio telescope near Harvard, Massachusetts (*S&T*: December, 1985, page 545). Horowitz scans the entire northern sky twice each year using a receiver that analyzes 8.4 million radio frequencies simultaneously. This "megachannel extraterrestrial assay" (META), as he calls the project, operates with private funds provided by the Planetary Society.

Now the program has expanded to the Southern Hemisphere. A second receiver system, dubbed META II, has been installed on one of two 30-meter dishes at the Institute of Radioastronomy in Argentina. "There's some benefit to having identical surveys," Horowitz points out, "in that we can both scan objects from  $-40^\circ$  to  $+10^\circ$  in declination." Horowitz and Argentine electronic specialists built the detector package from scratch, using \$150,000 donated by the Planetary Soci-

ety's members. Located about 45 kilometers southeast of Buenos Aires, the institute will be the scene of an October 12th dedication ceremony to kick off META II's search of the southern sky.

Meanwhile, after seven years of planning and development, NASA is poised to move forward with its ambitious Microwave Observing Project (MOP). This decade-long, \$100-million proposal involves a two-pronged approach. Some astronomers would scan the entire sky for alien signals using the 34-meter tracking antennas of the Deep Space Network (DSN) in California, Spain, and Australia. A huge swath of the microwave spectrum — from 1 to 10 gigahertz (GHz) — would be sifted by receivers able to handle up to tens of millions of channels at once, each 30 Hz wide. Other observers would concentrate on the 800-odd solar-type stars in Earth's immediate vicinity, using the DSN's 70-meter antennas and even the huge dish at Arecibo, Puerto Rico. The targeted search would be limited to the 1- to 3-GHz band, but with the receiver simultaneously sorting through frequency windows 1, 2, 4, 8, 14, and 28 Hz wide.

Unlike Project META, however, the outlook is not rosy for NASA's efforts. The agency had asked for \$12.1 million in fiscal 1991 to get MOP off and running, but a House appropriations committee halved the request to \$6.1 million. Then,

at a sparsely attended early-morning session of the House on June 28th, first-term Representative Ronald K. Machtley from Rhode Island moved to eliminate the program altogether. "Frankly, I would rather see a special terrestrial-intelligence program in our schools and colleges," Machtley argued. His colleague, Silvio O. Conte from Massachusetts, joined the lighthearted SETI-bashing. "We shouldn't be spending precious dollars to look for little green men with misshapen heads," Conte chided. "It's time to put this crippled dog out of its misery and kill it with a forceful blow." After a quick voice vote, the House did exactly that.

"That was more of a farce than anything else," laments John D. Rummel, the SETI project scientist at NASA's Washington headquarters. "These people aren't aware of the tremendous radio-frequency-interference problem we face," he adds, which makes starting the search soon imperative. There is some hope that the money for fiscal 1991 can be salvaged, as the Senate has yet to vote on NASA's budget. If the funds are restored, Rummel says a two-million-channel prototype receiver can be operating by 1992, in time for the International Space Year.

## Catching a Meteor in the Act

On April 8, 1989, a brilliant fireball flashed across the early morning sky above Puerto Rico. At that moment on the ground, Vladimir S. Getman (Tadjik Academy of Sciences, U.S.S.R.), James H. Hecht (Aerospace Corp.), and Debbie L. Knutson (Whitworth College) viewed the spectacle, estimated at magnitude  $-10$ , and hoped that the experiments they and other scientists had specifically set up to record such an event had captured it.

They did.

In what may be an unprecedented multiple observation, a meteor was detected by five instruments set up at three sites on the island. This was the first catch of the Arecibo Initiative on Dynamics of the Atmosphere (AIDA), an international campaign to study atmospheric phenomena including the profound chemical and physical effects meteors can have. Another 15 experiments on the island missed the meteor, limited by their narrow fields of view.

The fireball, dubbed "Bolide AIDA," blazed above Puerto Rico for about