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edited by DAVID KESTENBAUM

Team Approach to Millimeter Astronomy

Parallel efforts in the United States and Europe to build a giant radio telescope in northern Chile may be converging. The governing council of the European Southern Observatory (ESO) has agreed to negotiate with the United States and other partners on the idea of linking up its proposed Large Southern Array with the Millimeter Array funded by the National Science Foundation (NSF).

Each group has spent years developing plans for an array of radio dishes in Chile's Atacama desert to probe the origin and evolution of stars, planetary systems, and galaxies by capturing with unprecedented sensitivity radio waves in the submillimeter and millimeter range. The NSF is now spending $9 million a year designing a $200 million instrument that would consist of 40 antennae, each 10 meters in diameter. Its efforts are further along than the consortium of European partners, which earlier this month approved spending $2 million over the next 3 years toward a $500 million array of 50 12-meter dishes.

Joining forces would allow the two groups to share their expertise, including ESO's knowledge of operating telescopes in Chile. (Its newest, the four-unit Very Large Telescope, made a partial debut earlier this month.) But it won't save money unless both agree to scale down their plans.

The lone dissenting vote for negotiations came from France, which already operates a smaller millimeter array and is concerned about its ability to support any larger project.

NSF Settles Race Suit

The NSF has agreed to pay $95,400 to settle a discrimination suit brought by a white graduate student, leaving it scrambling for a better way to run its flagship graduate fellowship program.

Travis Kidd, now a doctoral student in mathematics at the University of South Carolina, sued NSF last December after the agency rejected his 1996 attempt to apply for fellowships reserved for minority students (*Science*, 2 January, p. 22). The NSF has typically awarded 15% of its 900 or so fellowships each year in a separate competition among underrepresented minorities.

Kidd's lawyers argued before the U.S. District Court in Alexandria, Virginia, that the NSF's use of racial criteria was unconstitutional. Administration lawyers countered that the NSF program was consistent with its congressional mandate to increase minorities in science. On 10 June, however, the two sides settled without going to trial. The settlement gives Kidd $14,400, the value of a year's fellowship in 1996, and attorneys' fees of $81,000. In 1996 NSF settled a similar case brought by a middle-school student against a summer science program for minorities.

The NSF is now seeking less controversial ways to bolster minority participation in science. The settlement "in no way diminishes the agency's long-standing commitment to diversity," NSF general counsel Larry Rudolph said in a statement last week. But for the time being, officials say, the fellowships program will be run without minority set-asides.

Kidd's attorneys are claiming victory. "I think NSF realizes that support for these programs is weak, and they wanted to avoid an adverse decision," says Terry Pell of the Washington, D.C.–based Center for Individual Rights, which assisted in the case. "We also felt that a financial settlement of this size was hard to turn down."

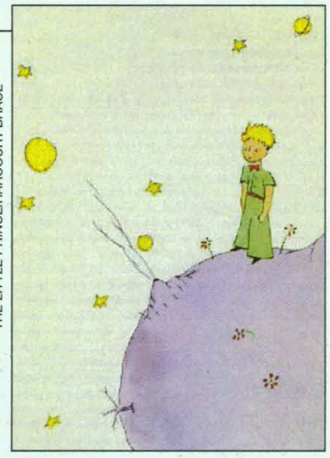
Six Possible Planets

Scientists are claiming to have discovered six new planets around stars outside the solar system, almost doubling the number known. The putative planets, each having roughly the mass of Jupiter, all seem to move in rather elliptical orbits—an observation that has theorists scratching their heads.

Details of the sightings became widely available on 23 June, when Jean Schneider of the Observatoire de Paris in France posted them on his Web site, the Extrasolar Planets Encyclopedia (wwwusr.obspm.fr/planets/). Many of the results are expected to be announced at a meeting on Protostars and Planets, to be held in Santa Barbara, California, from 5 to 12 July.

The findings appear to challenge theories about how planets form. "We had thought that objects of this mass would form on circular orbits," says Alan Boss of the Carnegie Institution of Washington, developing as the agglomeration of many small objects whose orbits would average out into a circle.

The detections of the new planet candidates were all made with the "Doppler" technique, in which the wobble of the parent star toward and away from an observer is recorded. According to Schneider, three possible planets were spotted by a team led by Martin Kurster, using the European Southern Observatory in La Silla, Chile. Michel Mayor of the Geneva Observatory, Didier Queloz of the Jet Propulsion Laboratory, and colleagues spotted three others, one of which was also seen by Geoff Marcy of San Francisco State University, Paul Butler of Anglo Australian Observatory, and Steven Vogt at University of California, Santa Cruz, using the 10-meter Keck Telescope in Hawaii.



THE LITTLE PRINCE/HARCOURT BRACE

Many homes? The number of new planets is growing rapidly.

DOD Axes Grad Student Program

The House is preparing to take up a 1999 funding bill that could trim basic research money from the Department of Defense (DOD) budget, but some academic scientists say they're already suffering from cuts mandated earlier this year. Physicist Robert Guenther, the interim director of Duke University's Free Electron Laser Laboratory, says his group has been hard hit by a reduction in graduate student funding.

The Pentagon has pulled the plug on a $40 million program called AASERT (Augmentation Awards for Science, Engineering, and Research Training), which allows DOD-funded university scientists to bring grad students into the lab. The grants typically provide $90,000 over 3 years. Guenther says his lab now has on staff three AASERT researchers. When their DOD money runs out in 1999, he indicated he will not be able to replace them.

The Pentagon killed AASERT in order to save another science program, says Robert Trew, a DOD program officer who oversees university research funding. "We were caught in a squeeze between procurement" of new weapons and the need to stay within budget limits, he says. "We didn't want to kill [AASERT]," he explains, "but it came down to that or the instrumentation program." The outcome: A $40 million budget for supplementing university-based instrumentation will continue.

Guenther questions the wisdom of that decision. "Now we can buy the equipment," he says, "but there will be no students to operate it." However, Trew says, DOD decided after a thorough review that instrumentation funding simply "had more value."