



ROHRER

from many sources—including lunar laser ranging and very-long-baseline interferometry—to determine and predict the Earth's orientation in space. The high spatial and temporal resolution of the new sources of data have contributed greatly to our knowledge of the peculiar motions and short-term variations of the Earth's spin.

Kaplan receives the Gillis Award for his computer work at the observatory. For example, he has worked on the programs for producing planetary ephemerides, for plotting sky diagrams, and for certifying astronomical computations.

C. A. Barth receives NASA distinguished service award

Charles A. Barth, director of the Laboratory for Atmospheric and Space Physics at the University of Colorado, Boulder, was awarded the NASA medal for Distinguished Public Service.

Barth was cited for his outstanding work on the Solar Mesosphere Explorer, proposing and establishing the project and helping to make it a highly successful scientific mission.

The project, which completed its second year of successful operations in October, was designed to observe and measure the natural processes which form ozone in the upper reaches of the Earth's atmosphere and determine the impact of solar activity on those processes. The satellite—the only NASA-launched satellite currently operated by university students—surprised researchers last year when its on-board instruments detected and observed the eruption of the El Chichon volcano in Mexico. The sulfuric acid and debris from one of the largest volcanic eruptions of the century were tracked as they spread a veil across the northern hemisphere. This information on the volcanic eruption has provided an unprecedented chance to observe a large-scale natural disruption of the chemistry of the atmosphere.

AAS presents Chretien awards to Chalabaev and Madore

The second annual Henri Chretien Awards of the American Astronomical Society have been given to Almas Chalabaev of the Observatory of Paris, Meudon, and to Barry F. Madore of the University of Toronto's David Dunlap Observatory to support further astronomical research.

Chalabaev was awarded \$10 000 for an investigation of the infrared spectra of radiating dust and other relatively cool bodies in H II regions—hot, ionized hydrogen clouds that contain young,

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The \$73 000 Faisal award—one of five presented this year—was presented to Binnig and Rohrer by King Fahd of Saudi Arabia in a ceremony in Riyadh. The awards recognize outstanding scientific achievements that benefit mankind. Both scientists were nominated by the Research Council of the Swiss National Science Foundation.

Binnig received his doctoral degree from the Johann Wolfgang von Goethe University in Frankfurt am Main, Federal Republic of Germany. He joined IBM in 1978.

Rohrer was awarded his PhD degree by the Eidgenössische Technische Hochschule in Zurich and came to IBM in 1963.

Naval Observatory awards for research achievement

The US Naval Observatory has presented the Simon Newcomb Award for research achievement to Don Pascu and Dennis D. McCarthy. The observatory also presented the first Captain James M. Gilliss Award for outstanding service to George H. Kaplan.

Pascu receives the Newcomb Award for his innovative work with natural satellite observations. Early in his career, he invented the "Pascu mask" to reduce the brightness of a planetary image on a photographic plate; the mask allows one to obtain clear images of faint satellites. Pascu's data on the satellites of Jupiter and Saturn contributed to the great successes of the Voyager missions. Recently he has worked with charge-coupled devices, assisting in the discovery of a new satellite of Saturn and in observations of Nereid, one of the satellites of Neptune.

McCarthy receives his Newcomb Award for his work on the Naval Observatory's geodetic information system. This system coordinates data

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Canberra Industries, Inc.
One State Street
Meriden, Connecticut 06450
(203) 238-2351