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the CenterLine

CENTER FOR ASTROPHYSICS



Framing the MMT high atop Hopkins.

MMT GOING UP ON SCHEDULE

It's beginning to take shape.

The distinctive outline of the Multiple Mirror Telescope building now can be seen towering over the Santa Cruz Valley high atop the summit of Mt. Hopkins.

Erection of the structural steel skeleton of the huge rotating housing was completed late this fall and has already weathered several test turns and some unusually heavy autumnal winds.

The outer panels will begin going on in early January, followed by the pouring of the concrete floors.

The joint SAO-University of Arizona facility is still closely following schedule. The preparation of the mirrors by the University's Optical Science Center is essentially finished and the next major milestone will be the fabrication of the optical support system in late spring 1977.

WOMEN'S PROGRAM BOOKLET PUBLISHED

Space for Women: Perspectives on Careers in Science, a booklet that focuses on both the potential pleasures and problems of science careers for women, is now available from the Public Affairs Office of the Center for Astrophysics. Derived from a 1975 symposium coordinated by the CFA's Women's Program and sponsored by Harvard, Radcliffe, and Smithsonian, the booklet explores many topics raised by symposium participants: science as a career, family-versus-career conflicts, sex discrimination, job opportunities, educational needs, science-related alternatives, etc. The booklet will be of particular interest to high-school and college-age women contemplating the sciences as career possibilities. Copies are free and will be distributed upon request to any individual, school, or library. (Photo and other story inside.)

A CELESTIAL MYSTERY STORY:

HOW MORIBUND CLUSTERS GLOW AGAIN

A flying squad of astronomical hawkshaws at the Center is now engaged in a major bit of scientific detection aimed at uncovering the mysterious celestial mechanism that turns on x-ray emissions from some star clusters, but not from others. A report on the investigation to date, complete with important new clues and tantalizing leads, follows from chief investigators Bill Liller and Josh Grindlay.

The investigation began in 1971 when the x-ray detectors aboard the UHURU satellite discovered x-rays coming from parts of the sky occupied by globular clusters, those immense celestial parking lots containing hundreds of thousands of stars. Long thought to be composed of old, worn out stars with little life left in them, globular clusters had been relegated to studies by "stellar morticians," astrophysicists primarily interested in how stars die. Therefore, it was surprising to find at least several "globulars" somehow generated highly energetic x-rays (probably by conversion of gravitational energy) with considerable intensity.

Three such globular cluster sources were identified by UHURU. More recently, other satellites (OSO-7 and Ariel 5) increased the number of x-ray sources associated with globular clusters to six. One of these "new" sources was later found by CFA astronomers Bill Forman, Christine Jones, and Harvey Tananbaum to have been "visible" (in x-rays) only for about a month. This suggested even more of these peculiar sources might be found in other globulars, since there are over 130 globulars in our galaxy.

Then came the "bursters." First discovered by Josh Grindlay using data from the Astronomical Netherlands Satellite (ANS), this new kind of x-ray source appeared in one of the known x-ray globulars, NGC 6624. However, these x-rays came in short, intense bursts, usually lasting no more than 10 seconds. A most spectacular burster - one that popped off several times a minute - was found a few months later by Walter Lewin and colleagues at MIT with SAS-3.

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The globular cluster 47 Tucanae.

Harvard College Observatory • Smithsonian Astrophysical Observatory
60 Garden Street Cambridge, Mass.

GEOASTRONOMY DIVISION MEMBERS RECEIVE AWARDS FOR LAGEOS TRACKING PERFORMANCE

The outstanding success of the Geoastronomy Division's camera-laser network in the early acquisition and tracking of the LAGEOS satellite last May (First photos within 90 minutes after launch; first laser returns within two days; 16,000 returns in the first two months!) was recognized with the presentation of awards to the tracking team.

Certificates of achievement and cash awards were presented to the following Cambridge personnel: David Arnold, John Thorp, Robert Borum, Phyllis Gould, Kathy Groat, Alan Miner, Michael Pearlman, and Alfred Sealy.

Also, Bea Miller accepted a certificate for the Data Services Division for its efforts in support of the LAGEOS program.

Former Hawaii station personnel Selberio Menor and William Perry received awards for their efforts in obtaining the first photographic images of the geodetic satellite. (Ironically, due to a reduction in NASA funding, the Hawaiian station, one of the original Baker-Nunn sites, has since been closed.)

The Mt. Hopkins tracking station personnel also received awards for their work in obtaining the first laser returns. Honored with certificates and cash awards were: Allende Almazan, Stephen Criswell, Joseph Delgado, Kirk Gilmore, Dennis Mento, Donald Patterson, James Peters, and Chad Poland.

Also honored for contributions to the success of the LAGEOS program were Thomas Hoffman and Gail Warren and the staffs of the tracking stations at Natal, Brazil; Arequipa, Peru; San Fernando, Spain; Debre Zeit, Ethiopia; Naini Tal, India; and Dionysos, Greece.



The Mt. Hopkins camera-laser crew (plus two Cambridge visitors) pose in Amado after receiving awards for participation in the LAGEOS program; from left, Joe Delgado, John Gregory, Chad Poland, Jake Wohn, Don Patterson, Jim Peters, Al Almazan, and Station Manager Steve Criswell.

THE FIRST ANNUAL CFA ACRONYM CONTEST

Aside from the Associate Directors, who can remember the eight divisions of the Center for Astrophysics? Virtually none of us, we suspect. Perhaps what is needed, then, is a good acronym that incorporates the essential initials or elements of the divisional titles into a simple word or phrase to provide easy and total recall.

The Centerline thus announces entries are open for The First Annual CFA Acronym Contest. All staff members, friends, relatives, and interested parties are invited to compete. No prizes, but the Centerline will publish any reasonable (and printable) acronym received.

To start you off, here's one from Roger Spidle of SAO's Fiscal Department: ASPORIGHT, as derived from Atomical, Solar, Planetary, Optical, Radio, Infrared, Geoastronomy, High energy, and Theoretical. (Perceptive acronymists will note that Infrared, as in OIR, is somewhat redundant. A bit of fiscal overbudgeting, no doubt.)

And here's the editor's own suggestion:

GRAMP HEATS POI, as in, Geoastronomy, Radio, Atomical-Molecular-Physics, High-Energy-Astrophysics, Theoretical, Solar, Planetary, and Optical Infrared.

Surely, someone - somewhere - can do better than that!

AND AN OTHERWORLDLY CONTEST. . .

The Speculative Anthropology Society, a California-based group devoted to merging anthropology and space technology, is sponsoring a contest in "Cultural Futuristics" that focuses on three areas of possible interest to astrophysicists: 1) alternative future cultural patterns on earth; 2) extraterrestrial communities; and 3) post-industrial development.

Futurists are asked to describe, in either essay or fiction form, the shape of possible societies in the future, either here or out there. Winners will receive potential fame, if little fortune. Aspiring astro-anthropologists can contact the Public Affairs Office for more details and complete contest rules.

WORKING THE BORDER PATROL

J. T. Williams, Site Manager for the MMT, was on a busman's holiday, hiking over the trails lacing the Santa Rita Range of Southern Arizona, when he stumbled upon a sizable cache of an illegal substance.

Six bags of cannabis, neatly bundled together with a CB transmitter, lay half-hidden beneath the scrubby brush on an upper slope of Mt. Hopkins. The grass apparently was air-dropped into the wilds, with the homing beacon intended to allow retrieval later by some enterprising local dealer.

Unfortunately for Tucson-area smokers, the transmitter smashed on impact and the marijuana went unfound by its intended customer. Good citizen Williams called the Border Patrol and the contraband was duly confiscated and presumably destroyed.