



Trueblood to Describe Liberalized HST Allocations



MR. TRUEBLOOD

institutional observers to whom such facilities are ordinarily fully committed.

Mr. Trueblood will describe the procedure for applying for HST Observatory time and will review the HST capabilities and instrumentation.

Mark Trueblood received his A.B. and Sc.B. degrees in physics from Brown University in 1971 and his M.S. degree in astronomy from the University of Maryland in 1983. He is the author of the book, *Microcomputer Control of Telescopes*, and eight articles on astronomical instrumentation. He has been a member of NCA since 1976, and is a member of the IAPPP and AAS. In 1984 he founded the Wimer Mobile Observatory for asteroid occultation research.

NOVEMBER CALENDAR — *The public is welcome.*

Saturday, November 1, 6:00 pm — Dinner with the speaker at the Smithsonian Restaurant, 6th and C streets, SW., inside the Holiday Inn. Reservations unnecessary. Use the 7th Street and Maryland Avenue exit of the L'Enfant Plaza Metro station.

Saturday, November 1, 8:15 pm — NCA monthly lecture in the Briefing Room of the National Air and Space Museum, Seventh Street and Independence Avenue, SW. (Enter Independence Avenue side.) Mr. Trueblood will speak.

Monday, November 3, 10, 17, 24 7:30 pm — Telescope-making classes at Chevy Chase Community Center, Connecticut Avenue and McKinley Street, NW. Information: Jerry Schnall, 362-8872.

Friday, November 7, 14, 21, 28, 7:30 pm — Telescope-making classes at American University, McKinley Hall basement. Information: Jerry Schnall, 362-8872.

Friday, November 21, 28, 8:00 pm — NCA 14-inch telescope open nights with Bob Bolster, 6007 Ridgeview Drive, south of Alexandria off Franconia Road between Telegraph Road and Rose Hill Drive. Call Bob at 960-9126.

Saturday, November 15, 8:00 pm — Annual NCA public telescope-selection seminar at Georgetown University, Room T-204, Rome Hall. See page 11.

Saturday, November 29 — NCA invited to Hopewell Observatory. See page 11.

OCTOBER LECTURE

Dr. Catherine Imhoff, a Computer Sciences Corporation astronomer, presented the 6 October National Capital Astronomers lecture on the International Ultraviolet Explorer (IUE) and its use in studies of T-Tauri stars.

The IUE spacecraft was launched 26 January 1978 into an eccentric geosynchronous orbit such that the craft stays over the Atlantic Ocean.

The primary optic is an 18-inch beryllium mirror with 3-arcsecond resolution. Focus is maintained by temperature control. Two echelle spectrographs with SEC vidicon detectors offer a choice of high and low resolutions of 0.1 and 6 Å per mm respectively. An image dissector provides a visual acquisition field. Exposure times range from 0.5 second to about 20 hours.

A joint project of NASA, the European Space Agency, and the Science and Engineering Research Council of the U.K., IUE is a guest-observer facility operated in real time. Each day, it is controlled for 16 hours from Goddard Space Flight Center and for eight hours from Madrid, Spain.

Designed for a 5-year life, the craft is now in its 8th year of operation. It has been enormously productive. It has been used to observe almost every type of object except the Sun. Two thousand astronomers have used IUE in separate research programs to obtain 53000 spectral images, each containing more than a half-million pixels, of 11000 objects. Studies based on IUE data have produced 1200 papers published in refereed journals, and numerous presentations at scientific meetings.

Dr. Imhoff explained that some of the spacecraft systems have shown signs of aging. Most important, four of the six gyros have failed; as designed, three are needed. A means was contrived to use a sun sensor and two gyros. A scheme to use two sun sensors and one gyro, if it becomes necessary, has been devised.

One of the many types of objects observed with the IUE is the T-Tauri stars. These are young stars of about the same temperature and mass as the Sun, but are thought to be only a few million years old. Dr. Imhoff showed ultraviolet T-Tauri emission lines of carbon and silicon. These lines were similar to those from active regions of the Sun, but were far stronger. The star GW Orionis, for example, showed emission lines from triply ionized carbon at 100,000 Kelvin that were 1000 times stronger than those from the Sun. Analysis of spectra of a number of stars has shown that the strength of these emission features weakens as the stars age. This is apparently explained by the depth of the convection zone, which changes as the stars age. Younger stars have much deeper convection zones; the larger plasma motions could produce stronger magnetic fields and result in larger active regions on the surface. The T-Tauri stars also rotate much faster than the Sun, with periods of only a few days, compared to the 27-day period of the Sun's rotation. It is believed that the motion of the magnetic field through the ionized material surrounding the star exerts a slight braking force which gradually slows the rotation.

Joan B. Dunham

OPTICAL SOCIETY OFFERS TALK ON NEW INFRARED DETECTORS

A talk on new developments in infrared detector arrays will be given by Dr. James C. Fraser, Cambridge Research, Boston, at a meeting of the National Capital Section of the Optical Society of America on Wednesday, 19 November at Evans Farm Inn, 1696 Chain Bridge Road (Route 123), McLean, Virginia. A social hour will begin at 6:00 pm, dinner at 7:00, and the talk at 8:15.

James C. Fraser received his Ph.D. in physics from the University of California at Los Angeles in 1969, and has worked in infrared detector technology for 17 years; he was Assistant Director for Infrared Technology at the Defense Advanced Research Projects Agency.

NCA members are welcome. It is not necessary to attend the dinner to hear the lecture. For dinner reservations, mail check payable to DC Chapter, OSA, (14.50 for Washington Chapter Optical Society members, 16.50 for nonmembers) to Dr. William R. Graver, 6137 Ninth Road North, Arlington, VA 22205.

OCCULTATION EXPEDITIONS PLANNED

Dr. David Dunham is organizing observers for the following occultations. For further information call Dave at 585-0989.

Date	UT Time	Place	Vis Mag	Pent Sunlit	Cusp Angle	Min Aper
Grazing Lunar:						
11-08-86	01:40	Ridge, MD, Sndstn, VA	6.2	40	14S	5 cm
11-19-86	10:36	Freeport, ME	4.5	92	14S	5 cm
11-20-86	09:27	Newburg, MD	6.8	87	12S	10 cm
Asteroidal:						
			Star Mag	Delta Mag	Name	
11-04-86	07:9	PA (KY to NS)	9.0	4.0	(94) Aurora	5 cm
11-12-86	02:18	MI to LA	9.7	2.3	(779) Nina	8 cm
11-16-86	23:46	L. Superior, Quebec	8.4	5.0	(32) Pomona	5 cm

NCA WELCOMES NEW MEMBERS

Andrew V. Davis
4201 Massachusetts Avenue, NW
Washington, DC 20016

Blaine P. Friedlander
4440 North 17th Street
Arlington, va 22207

Theda L. Marinelli, #519
809 West Broad Street
Falls Church, VA 22046

Eric A. Schaefer
5249 Rolling Road
Springfield, VA 22151

Jeff Stewart, #315
4001 North 9th Street
Arlinmngton, VA 22203

ANNUAL NCA PUBLIC TELESCOPE SEMINAR 15 NOVEMBER AT G W U

The annual free, public NCA seminar on telescope selection, use, and care will be held on 15 November at 8:00 pm in Room T-204, Rome Hall, Academic Center, George Washington University. Rome Hall is at 22nd and I streets, NW, near the Foggy Bottom Metro Station.

These seminars are designed to dispel common misconceptions and prepare those who are unfamiliar with telescopes to purchase wisely, to derive the greatest satisfaction from their instruments, and to avoid the disappointment so frequently reported to NCA after a naive purchase.

Following a presentation of basics will be a question and discussion period and an opportunity to examine a number of representative types and makes of telescopes, furnished by courtesy of Company Seven of Laurel, Maryland.

NCA INVITED TO HOPEWELL CORPORATION OBSERVATORY

NCA members, families, and their guests are invited to explore the autumn night sky At Hopewell Observatory on Saturday evening, November 29. Come early (any time after 4:00 pm) and bring your prepared picnic dinner if you wish. (...and stay as long as you like, of course!) Coffee, tea, cocoa, and soft drinks will be provided by the Hopewell Corporation. Dress warmly; the observatory is not heated (the operations building is, however).

From the Beltway, go west on I-66 25 miles to the Haymarket exit, left 0.25 mile to traffic light, right on Route 55 0.75 mile to County Road 681, right 3.2 miles to end, left on County Road 601 (gravel) 1.2 miles to County Road 629, right on 629 0.9 mile to narrow paved road on right (Directly across from easier-to-see entrance gate with stone facing on left). Turn right, go 0.3 mile to top of ridge, go around microwave station and continue on dirt road through woods a few hundred feet to the observatory.

Carpooling is recommended. Further information? Call NCA: 320-3621.

EXCERPTS FROM THE IAU CIRCULARS

1. September 6 -- J. Gunn, Princeton University, obtained a spectrum of the probable supernova in NGC 891 with the 5-m Palomar reflector. Strong but narrow H-alpha emissions and features similar to those of Eta Carinae were seen, indicating that this radio source is not a typical supernova.

2. October 7 -- R. Evans, Hazelbrook, New South Wales, discovered a supernova of 13th magnitude in NGC 1559, the second he has found in this galaxy. Spectra taken at the South African Observatory showed a blue continuum and broad hydrogen emission lines indicative of a type II supernova near maximum.

WANTED

Binoculars, 11 X 80 or similar, and 10- to 14-inch Dobsonian with or without accessories. John Lee, (703) 536-5646 (Falls Church).

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★ S T A R D U S T

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