

★ STAR DUST

Volume XLI

Summer 1985

Number 11



Halley

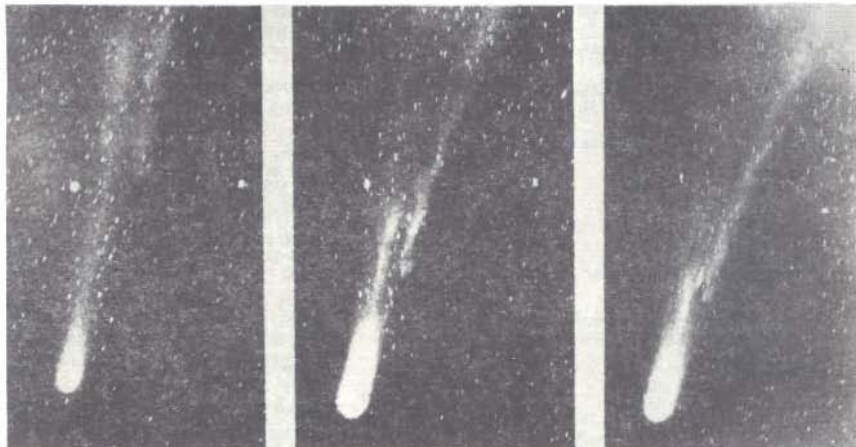
COURTESY NASA

GO SOUTH with NATIONAL
CAPITAL ASTRONOMERS!
See page 47.

OCCULTATION EXPEDITIONS PLANNED

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

Date	UT	Time	Place	Vis	Pent	Cusp	Min
				Mag	Sunlit	Angle	Aper
08-13-85	09:03		Somerset, PA	7.8	10	17N	5 cm
08-14-85	10:00		Fayetteville, NC	5.9	5	20N	2 cm



EXAMPLES OF TAIL-DISCONNECTION EVENTS DESCRIBED BY NIEDNER

Niedner's priority of discovery!

Other models exist, involving interplanetary shock interactions, and plasma instabilities, and solar flares. All leave unanswered questions.

The International Halley Watch was organized to coordinate data, standardize format, and have all data archived in one place. Observations needed include astrometry and orbit determination, infrared spectroscopy and spectrophotometry, photometry, polarimetry, and radio studies.

The Joint Observatory for Cometary Research, near Socorro, New Mexico, is the only one in the world dedicated to comet studies. It began with observations of Comet Kohoutek in 1973. Its principal instruments are a 22-inch Schmidt camera with 14-inch corrector and a 16-inch combination Newtonian-Cassigrain.

The Halley-Watch proposal features heaviest coverage beginning 1.5 AU before perihelion; Every major Schmidt telescope is scheduled. Following Halley's perihelion in February 1986 the comet will be far south; For ground-based studies an island network will supplement the continental observatories for world-wide coverage. Observers have been organized on Tahiti, Easter Island, and the Galapagos Islands in the South Pacific, St. Helena and Gough Islands in the South Atlantic, Reunion, Kerguelen and Marion Islands in the Indian Ocean, and (appropriately), Halley Bay in Antarctica. Most are being equipped by NASA. National Capital Astronomers recruited island resident scientists for some of these.

In addition to observing Comet Halley, the United States will study Comet Giacobini-Zinner by penetration of the plasma tail 10,000 km downstream from the nucleus, a position well inside the coma, which Niedner calculated as optimum. The IC-3 craft will reach the comet on 11 September 1985, shortly after Giacobini-Zinner's 5 September perihelion. Magnetic-field and plasma instruments will measure the bow shock created by interaction with the solar wind. This will be the first time any comet has been examined in situ by any craft.

These measurements will be correlated with later measurements made by the European Space Agency, the Japanese, and the Soviets as they fly through the the coma on the sunward side of Comet Halley.

ASTRO-1, to be launched by the Space Shuttle, will carry the Ultraviolet Imaging Telescope (UIT), Hopkins Ultraviolet Telescope (HUT), Wide-Field Camera (WFC), and Wisconsin Ultraviolet Photopolarimeter (WUPE). The UIT will measure gas-production rates for H, C, OH, etc. The HUT spectrometer will examine the extreme ultraviolet spectrum for the presence of He, Ne, A. The WFC will monitor solar-wind interactions such as tail-disconnection events. The WUPE will make the first polarimetry of cometary dust.

John B. Lohman

HOPEWELL CORPORATION OBSERVATORY TO HOST NCA

NCA members and their guests are invited to the Hopewell Observatory on Saturday evening, 10 August. Suggested arrival about 5 or 6 pm.

Bring your prepared picnic dinner and your friends for a night of celestial exploration (usually interrupted by the sunrise). If you wish, bring your own telescopes. Coffee, tea, cocoa, and soft drinks will be provided by the Hopewell Corporation.

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 0.8 mile to County Road 681, right 3 miles to end, left on County Road 601 (dirt) 1.2 miles to County Road 629, right on 629 1.0 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 site.

Carpooling is strongly recommended. For further information, call Bob McCracken at 320-3621. If no answer, 229-8321 to leave message for callback.

NCA WELCOMES NEW MEMBERS

Joshua G. Barker
6443 Northanna Dr
Springfield, VA 22150

Herbert R. Epstein
752 9th St, SE
Washington, DC 20003

Larry J. Godfrey
AFIP (PL-A) Aerospace Div.
Washington, DC 20306

Judy Goldstein
56-C Crescent Rd.
Greenbelt, MD 20770

Gary S. Mann
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Hyattsville, MD 20783

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Lawrence Myers
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Kent Ravenscroft Family
4710 30th St NW
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Seeman, M, & Liles J.
5314 42nd St, NW
Washington, DC 20015

Thomas E. Stewart
PO Box 6267
Silver Spring, MD 20906

TREASURER'S REPORT FOR YEAR ENDING 30 JUNE 1985

INCOME

Dues, renewals	\$4,780.90	
new members	<u>1,624.00</u>	
Total dues		\$6,404.90
Sales of Observer's Handbooks		261.00
Orders for other publications		568.38
Telescope-making classes		195.00
Interest		379.30
Deposits for Green Bank trip		100.00
Other income (gifts, refunds)		<u>250.00</u>
Total income		\$8,516.08

EXPENSES

Sky & Telescope subscriptions		\$3,172.00
Purchase Observer's Handbooks		258.75
Purchase of other publications		557.56
Star Dust, printing	616.17	
postage	<u>900.60</u>	
Total Star Dust*		1,516.77
Speakers' Dinners		148.45
Astronomical League dues		286.40
Insurance, equipment	250.00	
liability	<u>203.00</u>	
Total insurance		453.00
Administrative, including postage, printing, telephone		639.11
Gold Line deposit		100.00
Refunds, Greenbank & other		<u>65.50</u>
Total expenses*		\$7,597.54
Balance on hand 1 July 1984		\$3,823.11
Gain		\$6918.54
Balance on hand 30 June 1985		\$4,741.65

*Does not include May or June Star Dust expenses. Ruth S. Freitag, Treasurer

A LETTER FROM THE PRESIDENT

July 1, 1985

As President of National Capital Astronomers I make the following appointments:

1. The trustees of NCA as nominating committee, Robert H. McCracken, Chairman, to select officers for fiscal year 1987. The slate is to be published in the May 1986 Star Dust.

2. A permanent program committee, chaired by the vice president, Michael Brabanski, with Robert Bolster, Geoffrey Chester, David Dunham, Robert McCracken, Jay Miller, James Trexler, and Mark Trueblood.

The committee is to obtain speakers for the monthly lectures and provide topics and moderators for the discussion groups. The committee shall maintain such contacts in the scientific community as necessary to assure timely lectures on current, significant work in the field.

3. A science-fair awards committee for fiscal 1986:

Area	Primary	Alternate
Washington, DC	Jerry Schnell	David Healy
Arlington County	John Lohman	Tony Frato
Montgomery County	Jay Miller	James Gilfillan
Prince Georges County	Walter Nissen	
Northern Virginia	Robert Bolster	
(except Arlington County)		

This committee will be chaired by the president. Each primary contact will be responsible for scheduling, submission of NCA information to the school officials, and reporting results to the president.

4. David Healy as NCA attorney.

5. Geoffrey Chester as Liaison between NCA and the National Air and Space Museum. He will notify the editor of Star Dust of NASM events of interest, and will coordinate the NASM Comet Halley program with NCA.

6. Robert McCracken to continue as NCA delegate to the Washington Academy of Sciences.

In addition to the above appointments, I am setting the following goals for NCA for fiscal 1986:

1. Review the bylaws of NCA and adjust as required.

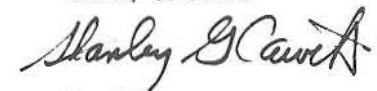
2. Review the NCA officers' responsibilities and update job descriptions as needed.

3. Re-establish the advance-planning committee.

4. Broadly extend NCA's Comet Halley programs at all levels

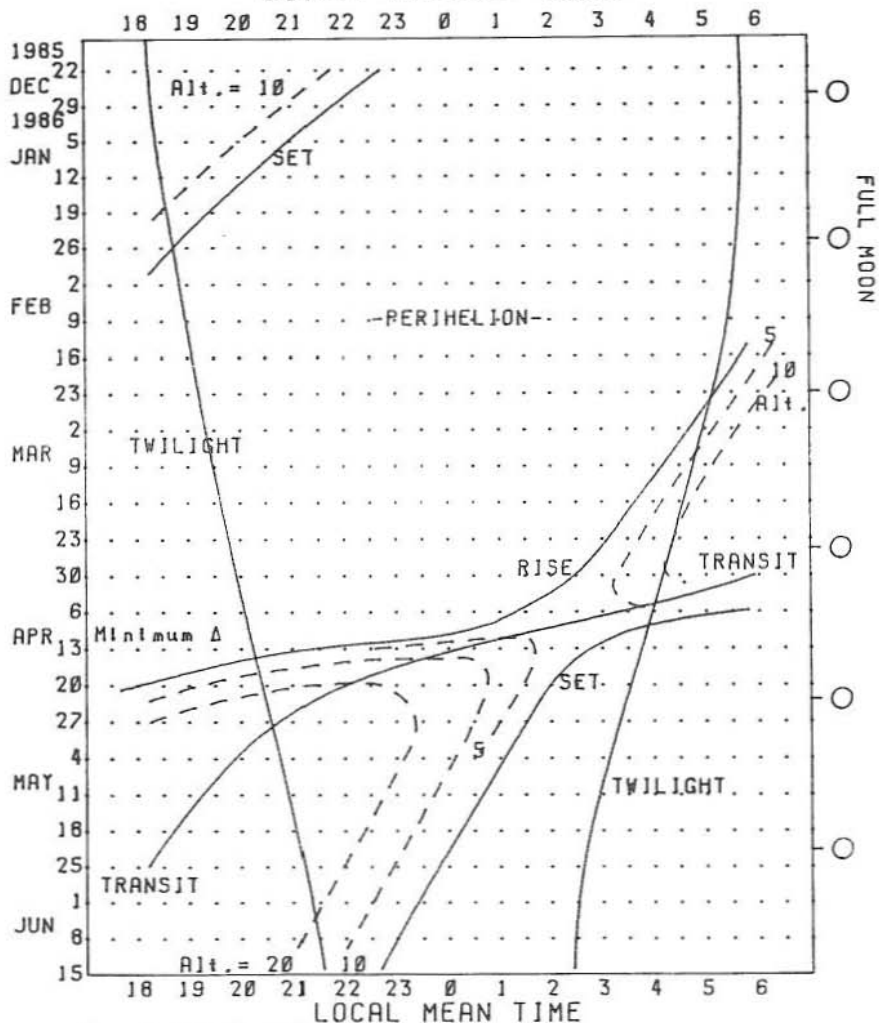
These objectives will require the utmost cooperation and assistance from all trustees, officers, and volunteers.

Stanley G. Cawelti



President

COMET HALLEY 1986



For latitude 38.9 degrees N
 At Wash., DC: EST = LMT + 8 min. EDT = LMT + 1 hr 8 min.
 Calculated & plotted by R.N. BOLSTER

For those who simply cannot go to the Southern Hemisphere with NCA next April, this chart shows when Halley may be seen at the latitude of Washington, DC.

The two curves from top to bottom show twilight limits. Other solid lines show rising, meridian transit, and setting times of the comet. Dashed lines show altitude above the horizon. The full Moon will interfere around the dates indicated.

In December, Halley probably will reach unaided-eye visibility as it rapidly approaches the horizon and disappears into the evening twilight. It will again rise above the horizon, much brighter, as it approaches the Earth in early April (minimum Δ), but at the low altitudes atmospheric extinction will substantially dim the comet. It will then fade rapidly as it departs until 2061.

EXCERPTS FROM THE IAU CIRCULARS

1. MAY 19 - Parmar, Stella, Ferri, and White, EXOSAT Observatory, discovered a bright, transient X-ray pulsar in Cygnus with the Exosat Spacecraft. The pulsation period was 41.83 sec.

2 May 27 - D.E. Mechholz, Loma Prieta, California, discovered a comet of 9th magnitude in Pices with a 25-cm F/3.8 reflector, from near Big Bear City. Comet Machholz (1985e) was expected to be of 0 magnitude when at perihelion on June 28, 0.106 AU from the Sun.

3 June - Botinelli, Mechholz, Fraix-Burnet, Gouguenheim, le Squeren, and Patey, Observatoire de Paris, Meudon, reported the discovery of a powerful OH maser in peculiar galaxy Markarian 273. The source was found with the Nancey radiotelescope during a survey of galaxies found to be bright in the infrared by IRAS.

4. June 13 - M. Hartley, U.K. Schmidt Telescope Unit, discovered a comet (1985f) of 16th magnitude in Virgo on plates taken with the 1.2-m Schmidt.

R.N. Bolster

FOR SALE

Meade model 645 telescope. 6-inch F/5, 2-inch focuser, dust covers, manual declination control #55, 9-mm and 25-mm eyepieces. Very good condition. \$450.00. William H. Shuey, (301) 848-0247 after 5:00 pm.

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★ S T A R D U S T

WASHINGTON DC



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FIRST CLASS