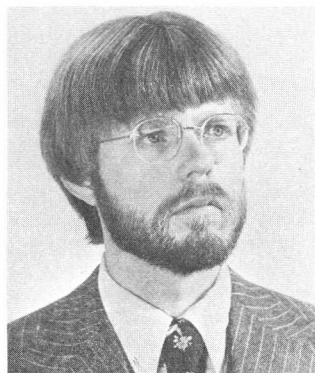




ESPENAK: SOLAR ECLIPSES - 1983 TO 2000 AND BEYOND



MR. ESPENAK

The September 11 meeting of National Capital Astronomers will hear Mr. Fred Espenak of NASA Goddard Space Flight Center speak on the mechanics and current computer techniques of solar eclipse predictions.

Note that the meeting will be held on the *second* Saturday in September, not the first, which falls on Labor Day weekend.

Of the 39 solar eclipses which will occur during the next 18 years, 12 will be total, 14 will be partial, 11 annular, and 2 annular/total. Espenak will discuss some of the more interesting of these in detail. In particular, he will highlight the 1983 total eclipse in Indonesia.

Others of interest include the 1984 annular eclipse through Virginia and the total eclipse of 1991 across Hawaii, Mexico, and Central

America. At Mexico City totality will last nearly 7 minutes, the longest of the decade.

Fred Espenak received the B.S. in physics from Wagner College in 1974 and the M.S. in physics from the University of Toledo in 1976. Before coming to NASA he was a computer specialist at Computer Sciences Corporation. At Goddard he is a member of the Infrared and Radio Astronomy Branch, which has pioneered in ultra-high-resolution infrared heterodyne spectrometry. He has recently completed an analysis of ethane in the atmosphere of Jupiter, and is about to resume a search for molecules in infrared stars. Mr. Espenak is a member of the American Astronomical Society, Sigma Pi Sigma, and Sigma Xi.

SEPTEMBER CALENDAR -- *The public is welcome.*

- Friday, September 3, 10, 17, 24, 7:30 PM -- Telescope-making classes at American University, McKinley Hall basement. Information: Jerry Schnall, 362-8872.
- Tuesday, September 7, 14, 21, 28, 7:30 PM -- Telescope-making classes at Chevy Chase Community Center, Connecticut Avenue and McKinley Street, NW. Information: Jerry Schnall, 362-8872.
- Friday, September 10, 17, 8:30 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, September 11, 6:15 PM -- Dinner with the speaker at the Thai Room II, 527 13th Street, NW. Reservations unnecessary.
- Saturday, September 11, 8:15 PM -- NCA monthly meeting at the Department of Commerce Auditorium, 14th and E Streets, NW. Fred Espenak will speak.
- Saturday, September 11, 8:00 PM -- Discussion group on optical filters at the Department of Commerce. See page 2.
- Wednesday, September 22, 8:00 PM -- NCA tour of Cumberland Optical Company plant. See page 2, and call Nancy or Paul Hueper, 229-7328 for reservations.
- Saturday, September 25, 8:00 PM -- *Exploring the Sky*, presented jointly by NCA and the National Park Service. Glover Road south of Military Road, NW, near Rock Creek Nature Center. Planetarium if cloudy. Information: Bob McCracken, 229-8321.

NCA TO TOUR CUMBERLAND OPTICAL PLANT

On Wednesday evening September 22 at 7:30 PM National Capital Astronomers will tour the manufacturing facilities of Cumberland Optical Company, where the fine optics are made for Questar telescopes.

Reserve your place by calling Nancy or Paul Hueper, 229-7328, as soon as possible. If the limit is reached latecomers cannot be accepted.

Cumberland is located on Beech Road in Marlow Heights, Maryland. From the Beltway take Branch Avenue (Maryland Route 5) inside the Beltway about one-half mile to Beech Road, then left on Beech Road to Cumberland Optical on the left.

We thank Mr. Roland Cumberland and Nancy Hueper for this opportunity.

DISCUSSION GROUP ON OPTICAL FILTERS SEPTEMBER 11

Are you realizing the full capabilities of your instruments (telescopes, cameras, photometers, or eyeballs) as enhanced by the judicious use of optical filters?

Share -- at any level -- your knowledge, questions, and experience, or simply come and listen to the discussion group on filters on Saturday 11 September at 8:00 PM at the Department of Commerce. The guard will direct you to the conference room.

The use of filters of all types to enhance or facilitate observations, their purposes, characteristics, applications, advantages -- any aspect of the subject will be open for informal discussion.

MULTIPLE SUBSCRIPTIONS NO LONGER NECESSARY

Our contract with the publisher requires that we provide *Sky and Telescope* to all regular members. New members who subscribe privately are credited accordingly. New members who already receive *Sky and Telescope* through a similar group contract, however, previously could not be so credited; the new member was required to pay for two subscriptions in order to join NCA. We are happy to announce that such multiple subscriptions are no longer required, as a result of a new arrangement we have made with Sky Publishing Company. These subscriptions can now be credited to membership upon certification of subscription currency, which will be verified.

We look forward to welcoming a number of new members who have been deterred by the previous arrangement.

TRUSTEES MEET, PROPOSE UPDATES

A meeting of the NCA trustees was held on 28 July at the Department of Commerce to consider adjustment of certain NCA operations.

Both our present and previous secretaries have suggested that service can be improved and workload reduced by adoption of individual membership years (with concurrent subscriptions) instead of our previous practice of adjusting all memberships to our fiscal year, September through August. (Executive terms, however, would remain July through June.)

The trustees agreed to this change, and have proposed the required supporting amendments to the bylaws.

In addition, the trustees suggested certain other amendments they deem advisable.

Pursuant to Article IX of the NCA Constitution, the proposed amendments will be mailed to the membership for consideration at a regular meeting.

We thank Joan Dunham for preparing the text of the proposal.

CORRECTION

In the editorial condensation of the treasurer's report for the summer issue of *Star Dust*, a group of expenses was inadvertently omitted: Observer's handbooks, 144.34; speaker's dinners and incidental expenses, 245.54; Astronomical League dues, 207.96; Insurance, 371.00; total, 968.85. The published totals were correct. This was an editorial error, not that of the treasurer.

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.

| UT Date | Time | Place | Vis Mag | Pcnt Sunlit | Cusp Angle | Min Aper |
|----------|---------|--------------------|---------|-------------|------------|----------|
| 09-11-82 | 09:55 | Bowie, Maryland | 9.3 | 42 | 12N | 15 cm |
| 09-12-82 | 09:57 | Lime Kiln, MD | 9.0 | 31 | 12N | 15 cm |
| 09-13-82 | 09:16 | Ashland, Virginia | 8.2 | 21 | 12N | 8 cm |
| 09-22-82 | 00:47 | Roanoke Rapids, NC | 6.8 | 21 | 3N | 5 cm |
| 09-25-82 | 2 00:42 | Bowie, MD | 8.6 | 48 | 2N | 20 cm |

| ASTEROIDAL: | Star | Delta | Name of Asteroid | Mag | Mag |
|-------------|-------|---------------|------------------|-----|--------------------|
| 09-15-82 | 11:09 | Upper Midwest | 8.5 | 3.2 | (52) Europa 5 cm |
| 09-17-82 | 02:16 | Upper Midwest | 9.2 | 1.0 | (19) Fortuna 10 cm |

NCA WELCOMES NEW MEMBERS

Mr. & Mrs. Andrij Bilyk
629 N. Pegram Street
Alexandria, VA 22304

W.J. Conlyn, Jr.
9124 Walden Road
Silver Spring, MD 20901

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3567 Ft. Meade Road
Laurel, MD 20810

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825 New Hampshire Avenue NW
Washington, DC 20037

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8689 Greenbelt Road, T2
Greenbelt, MD 20770

Henry J. Siano, Apt. 730
3040 Idaho Avenue, NW
Washington, DC 20016

Marie E. Sullivan
4445 Q Street, NW
Washington, DC 20007

Joseph N. Tatarewicz
1100 Tucker Lane
Silver Spring, MD 20904

Mr. & Mrs. Joseph Telep
7011 Essex Avenue
Springfield, VA 22150

Carolyn D. Williams
8315 N. Brook Lane, Apt. 1204
Bethesda, MD 20814

PARK PROGRAMS REMAIN POPULAR

Thanks to loyal support by many NCA members and park naturalists over the past 40 years, many, many thousands have enjoyed our guided telescopic tours of the heavens, and continue to do so. Although the steady encroachment of smog, neon, and mercury vapor have seriously damaged the local sky, we are told that *Exploring the sky* is one of the most consistently popular public programs ever offered by the Park Service.

Recently, Dr. John Lohman has been offering public NCA programs in collaboration with the Northern Virginia Regional Park Service. He reports a rapid growth in their popularity.

Dr. Lohman has also been providing computer-plotted handouts of current phenomena such as the configuration of Jupiter's satellites for our programs.

HAVE YOU RECEIVED YOUR KEY PASS FOR THE NCA CLARK REFRACTOR ?

NCA's 5-inch Alvan Clark refractor at the Naval Observatory is for the use of all NCA regular members in good standing. To arrange for your checkout on the instrument and the issuance of your key pass, call Larry White, meet him at the Observatory at the appointed time, and receive a briefing on the use of the instrument. You may then enjoy, with your guests, the privilege of using the facility at any time.

The NCA 14-inch Celestron has been returned to Bob Bolster's observatory in Alexandria, where you may enjoy it on designated open nights listed in the calendar.

EXCERPTS FROM THE IAU CIRCULARS

1. 1981 -- Michels, Sheeley, Roberts, Harlow, Seal, Chaimson, and Funk, Naval Research Laboratory, have discovered two more probable sun-grazing comets, in 1981 January and July, with the P78-1 Solwind spacecraft. Fifteen observations of the first comet and 34 of the second were obtained. Perihelion distances derived by Marsden were 1.05 and 0.92 solar radii.

2. July -- A.B. Grauer, University of Arkansas, and H.E. Bond, Louisiana State University, reported finding the nucleus of planetary nebula Abell 41 to be a short-period binary system. The 15th-magnitude object showed 0.15-magnitude minima with a period of 2h 43m.

3. July -- Kosai, Hasegawa, and Makano, Tokyo Astronomical Observatory, and Candy, Perth Observatory, suggested that Comet Hartley (1982h) was identical with P/Peters (1846 VI). Calculations by Marsden back through 17 revolutions indicate that this is true.

4. July 21 -- M. Wischnjewsky, University of Chile, discovered a supernova of 16th magnitude in NGC 7713 on a plate taken by L.E. Gonzales. rnb

FOR SALE

Telescope -- Celestron C-8 with tripod, wedge, special coatings, latitude adjustment, piggy-back camera mount, tube extender, counterweight, rich-field adaptor, no-tool knob set (University Optics), T-adaptor, 24-mm Koenig, 18-mm ortho, other eyepieces. 2 years old. Asking \$1025.00. Eric Bunn, (301) 262-1453 evenings, 345-0914 days.

Telescope -- 10-inch F/5.6 Newtonian on Dobsonian mount. Price negotiable. Andrew Baines, 839-6882.

Telescopes -- 4.25-inch Edmund reflector, equatorial mount, clock drive, 9x finder, 25- and 12-mm eyepieces, Barlow lens, camera support bracket mounted on tube. Good condition. \$200.00. 60-mm Tasco refractor, focal length 700 mm, altazimuth mount, 12.5- and 6-mm eyepieces, 2x Barlow lens, 5x finder. Excellent condition. \$175.00. Bushnell 10x30 refractor, coated optics. Could be used as a finder or mounted on a camera tripod. \$50.00. Raymond Finkleman, 460-3399.

Glass -- 16-inch porthole, 10-inch unground tool. Paul Hueper, 229-7328.

★ S T A R D U S T

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