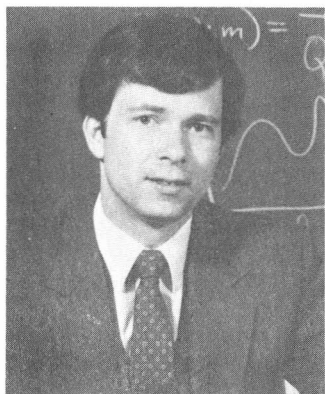




IONSON TO PRESENT NEW CORONAL HEATING THEORY



DR. IONSON

Dr. James A. Ionson, NASA Goddard Space Flight Center, will present his new theory of solar coronal heating at the June meeting of National Capital Astronomers.

For this work, he will receive the Scientist of the Year Award, including \$1,000 and the Allan C. Davis Medal, from the Maryland Academy of Sciences on May 29.

Modeling the flux tube as an excellent, high-Q resonant cavity, Ionson uses the analogous parameters and L-R-C (inductance-resistance-capacitance) equations to determine the electric and magnetic resonances of the loop system. A typical flux tube of 10^9 cm has a 5-minute resonance period, which corresponds to the 5-minute oscillation period of the Sun. His theory describes a means for coupling the broad-band mechanical power of photospheric convection

to the electrodynamic dissipation in the corona. Maximum coupling, hence, most intensive heating, occurs in just those coronal features having resonances at or near the photospheric oscillatory power peaks. The theory thus predicts the rates of heating, temperature, and pressure describing the thermodynamic state of the corona as a function of its driver — the solar convection.

James Albert Ionson received the B.S. in mathematics and physics (1972), the M.S. in both physics (1973) and aerospace engineering (1975) from the University of Michigan, and his Ph.D. in physics in 1978 from the University of Maryland, where he served as Lecturer and Research and Teaching Fellow in physics, astronomy, and engineering. He came to Goddard Space Flight Center in 1978 as an astrophysicist, where he is now Project Scientist for the International Solar-Terrestrial Physics Program. He has authored many papers and received an impressive array of awards for his outstanding works.

Dr. Ionson is not only a champion of science, but also was a member of the World-Champion United States Kayak Team in 1970!

JUNE CALENDAR — *The public is welcome.*

Friday, June 1, 8, 15, 22, 29, 7:30 pm — Telescope-making classes at American University, McKinley Hall basement. Information: Jerry Schnall, 362-8872.

Friday, June 1, 8, 15, 22, 29, 9:30 pm — NCA 14-inch telescope open nights with Bob Bolster, 6007 Ridgeview Drive, off Franconia Road between Telegraph Road and Rose Hill Drive. Call Bob at 960-9126.

Saturday, June 2, 6:15 pm — Dinner with the speaker at Ding How Restaurant, 1221 E Street, NW. NOTE CHANGE. Reservations unnecessary.

Saturday, June 2, 8:15 pm — NCA monthly meeting at the Department of Commerce Auditorium, 14th and E Streets, NW. Dr. Ionson will speak.

Tuesday, June 5, 12, 19, 26, 7:30 pm — Telescope-making classes at Chevy Chase Community Center, Connecticut Avenue and McKinley Street, NW, Information: Jerry Schnall, 362-8872.

MAY LECTURE

Dr. Henning Leidecker, Professor of Physics at American University, spoke on the past and future of microcomputers at the May meeting of National Capital Astronomers. He discussed the history of electronic computers from the World War II era to the present personal computers and suggested the future trends in the usefulness of the microcomputer.

The years following World War II saw the introduction of electronic, stored-program computers into universities and scientific institutions. These machines performed tasks which had earlier been done by human computers using mechanical calculators. The electronic computers were thousands of times faster and made far fewer mistakes.

One of the early computers, the IBM Selective Sequence Electronic Calculator, was used in 1950 by Eckert, Brouwer, and Clemence, to calculate the positions of the outer planets, Jupiter to Pluto, for the period 1953 to 2060. From 1960 to 1983, the *American Ephemeris* based its outer-planet predictions on these positions.

In 1971, Intel Corporation produced an integrated-circuit chip which could serve as the central processing unit of a computer. The first commercially available personal microcomputer, the Altair 8800, appeared in 1975. The early personal computers, and low-cost personal computers at present, have approximately the speed of the computer employed by Eckert, Brouwer, and Clemence.

The fastest of the present personal computers have speeds comparable to those of the large computers of the 1960's. Using these machines, considerable scientific work is possible.

The fastest of today's large computers, such as the CRAY, are millions of times faster than that used by Eckert, Brouwer, and Clemence. It appears that personal computers may eventually attain these speeds.

Peter Kammeyer

CALENDAR — Continued

- Saturday, June 16, 8:00 pm — Software Working Group meets on ephemeris calculations. Conference Room D, Department of Commerce, 14th and E Streets, NW. All interested are welcome. Bob Bolster, 960-9126.
- Saturday, June 23, 9:00 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: John Lohman, 820-4194.
- Saturday, June 30, 6:00 pm on — NCA invited to Hopewell Observatory — Repeat of April event. See page 39.

NCA PARTICIPATES IN NAVAL OBSERVATORY SCIENCE STUDENT EVENT

About 150 Metropolitan Area science students were hosted by the U.S. Naval Observatory on 21 May from 8:30 am to 4:15 pm. In the nation-wide program sponsored by General Motors, top high-school science students are recognized.

Included in the students' tour, at the Observatory's request, was solar viewing with the NCA Clark refractor. The 12- and 26-inch refractors were otherwise committed.

The local group was co-sponsored by CBS Television; each was interviewed for one minute. These interviews will be shown during the summer.

OCCULTATION EXPEDITIONS PLANNED

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

Date	UT Time	Place	Vis Mag	Pcnt Sunlit	Cusp Angle	Min Aper
06-03-84	00:01	Bridgeport, CT	3.7	12	10S	5 cm
06-11-84	01:47	Stamford, CT	5.3	92	14N	5 cm
07-03-84	03:15	Hereford, MD	5.7	20	6N	8 cm

FISCAL 1985 NCA OFFICERS ELECTED

The following NCA officers were elected for fiscal 1985 at the May meeting:

President	Geoffrey R. Chester	Treasurer	Ruth S. Fréitgg
Vice President	Stanley G. Cawelti	Trustee	Robert H. McCracken
Secretary	Joan B. Dunham	Sergeant at Arms	Richard J. Taibi

NCA WELCOMES NEW MEMBERS

Bernard S. Bailor
9410 Fairhaven Avenue
Upper Marlboro, MD 20772

Scott M. Fearing
3500 S. Eighth Street
Arlington, VA 22204

Margaret C. Foster
7909 Tilbury Street
Bethesda, MD 20814

Morris Kamelgarn
5395 Duke Street, #1019
Alexandria, VA 22304

Victor J. Linden
4102 Maple Street
Fairfax, VA 22030

J. Thomas Wolf
4519 Q Street, NW
Washington, DC 20007

NCA INVITED TO HOPEWELL OBSERVATORY — REPEAT

The Hopewell Corporation will again host National Capital Astronomers at Hopewell Observatory on 30 June. In spite of the weather, 15 to 20 persons came to the May outing; we hope for better weather on 30 June.

If you wish, bring your prepared lunch; coffee, tea, cocoa, and soft drinks will be provided. You may also bring your friends and telescopes. If you like, bring your eclipse or other slides to show and discuss. (We will project.)

From the Beltway, go west on I-66 25 miles to the Haymarket exit. Left 0.25 mile to traffic light. Right at light onto Route 55 0.8 mile to County Road 681, right on 681 3 miles to end, left on County Road 601 (dirt) 1.2 mile to County Road 629, right on 629 1.0 mile to small paved road on right. (Easier to see is gate with stone facing on left.) Turn right to top of ridge, go around microwave station and continue on dirt road through woods a few hundred feet to site.

Carpooling is recommended. For further information, call Bob McCracken at 320-3621 or 229-8321.

ANOTHER NAME FOR IT

The natives of Papua, New Guinea have their own pidgin-English name for a solar eclipse, according to World of Oz, the well-known New York-based travel agency: "*Taim Mun I passim San.*"

EXCERPTS FROM THE IAU CIRCULARS

1. November — J. Heise, F. Paerels, and H. van der Woerd, Space Research Laboratory, Utrecht, the Netherlands, discovered X-ray pulsations from the dwarf nova VW Hydri with the EXOSAT spacecraft. The observations were made during an optical outburst reported by F. Bateson, and the New Zealand Variable-Star Observers.

2. April 6 — J.S. Drilling, Louisiana State University, found that LSS 2018, the central star in planetary nebula DS 1, varied by 0.5 magnitude with a period of 8.57 hours. High-resolution spectra showed a matching variation in radial velocity.

3. March 25 — Santhanam and Rozario, Indian Institute of Astrophysics, Bangalore, observed a possible occultation of SAO 158913 by a magnetospheric ring of Saturn. Several absorption features, with a minimum of 0.58 magnitude, were observed at 14 radii from the center of Saturn with the 1-m telescope at Kavalure.

4. April — Kresak, Carusi, Perozzi, and Valsecchi, Slovak Academy of Sciences, have found by computation that the elements of Comet P/Neujmin 3 and P/Van Biesbroek were nearly identical prior to a close approach to Jupiter in 1850. They suggest that the comets are from a single body which broke up in 1845.

SUMMER NCA/NCP PROGRAMS SCHEDULED

The summer park program, *Exploring the Sky*, presented jointly by National Capital Astronomers and the National Park Service, is scheduled for the 1984 season: May 26, June 23, July 21, August 4, at 9:00 pm; September 22, 8:00 pm; October 27, 7:30 pm.

These public programs are held on Glover Road south of Military Road, NW, near Rock Creek Nature Center. The planetarium is used if cloudy. For further information call Dr. John Lohman at 820-4194.

NCA MEMBERS PARTICIPATE IN SMITHSONIAN ECLIPSE TRIP

NCA President Elect Geoffrey Chester, Planetarium Production Coordinator at the National Air and Space Museum; Vice-President Elect Stanley Cawelti, NASM Docent; and David DeVorkin, Associate Curator of Astronomy, Space Science and Exploration, NASM, will provide their expertise to a Smithsonian Associates eclipse trip on 30 May. Their site is the Berkeley Plantation on the James River.

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★ S T A R D U S T



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