

★ S T A R D U S T



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RADIO YIELDS HIGH-RESOLUTION SOLAR STRUCTURE



DR. HOBBS

Dr. Robert W. Hobbs, of the Laboratory for Solar Physics, Goddard Space Flight Center, will discuss the results of radiointerferometer measurements made at the National Radio Astronomy Observatory, which have disclosed 1-arc-second structures in the solar chromosphere. Structures of this size are well known at the lower altitudes in the solar atmosphere commonly studied by optical astronomy, but have not previously been observed at the higher altitudes represented by radio observations. The significance of these findings to solar physics will be discussed.

Robert W. Hobbs recently led the team that conducted the first high-resolution radiointerferometry of the Sun. He has also served as project leader for GSFC's solar spectrometer station in New Mexico.

Dr. Hobbs joined Goddard Space Flight Center in 1969, coming from the U. S. Naval Research Laboratory, where he led the Millimeter-Wave Section. He received his Ph. D. in astronomy from the University of Michigan.

MARCH CALENDAR

- Friday, March 1, 8, 15, 22, 29, 7:30 PM — Telescope-making classes at American University, McKinley Hall basement. Information: Jerry Schnall, 362-8872.
- Saturday, March 2, 6:15 PM — Dinner with the speaker at Bassin's Restaurant, 14th Street and Pennsylvania Avenue, NW. Reservations not required.
- Saturday, March 2, 8:15 PM — NCA monthly meeting at the Department of Commerce Auditorium, 14th and E Streets, NW. Dr. Robert Hobbs will speak on solar radiointerferometry.
- Monday, March 4, 11, 18, 25, 7:30 PM — Telescope-making classes at the Chevy Chase Community Center, Connecticut Avenue and McKinley Street, NW. Information: Jerry Schnall, 362-8872.
- A TRUSTEES' MEETING will be held immediately following the monthly meeting to discuss Science Fair participation and committee appointments.

FEBRUARY LECTURE

Dr. Dianne K. Prinz, physicist with the E. O. Hulburt Center for Space Research, U. S. Naval Research Laboratory, discussed the Sun's appearance in the 1216Å alpha line of hydrogen on February 2.

She began with a review of the rocket vehicle and camera instrumentation used for solar study flights above White Sands, New Mexico. At this line in the Lyman series of hydrogen, spectrograph mirrors are only 80% efficient rather than the 90-95% efficiency in visible light. This results in spectrographs that use only about 25% of the incoming light for actual dispersion. A big advantage of rocket astronomy over satellite astronomy is the much shorter time between planning and execution of an experiment — about one year.

Lyman-alpha photographs taken just after the July 10, 1972 total solar eclipse clearly showed a supergranulation pattern with grains about 3 arc-seconds in diameter over the entire disc. Presumably, the granulation is related to the smaller, lower-level granulation seen in white and Balmer-alpha light. Exposures of 15 seconds duration revealed prominences at this wavelength, but not the corona. Several questions to the speaker were concerned with the extent that reflection scattering may have prevented corona detection.

Dr. Prinz aroused considerable interest also with photographs of Comet Kohoutek in Lyman-alpha hydrogen light taken with an NRL electronographic camera during a January 7 rocket flight. They revealed a 5-gigameter diameter halo of atomic hydrogen around the comet.

NCA TO HOST MERAL CONVENTION

The 1974 convention of the Middle East Region of the Astronomical League will be hosted by NCA at Ramada Inn, intersection of state route 234 and U. S. 66, Manassas, Virginia, on Saturday, May 18, 1974.

Morning and afternoon paper sessions, a flea market for telescope parts, an astrophotography contest, and contributed exhibits are planned. At the 7:00 PM banquet, main course baked double breast of capon, there will be an invited guest speaker.

If weather permits, a star party will be held on Friday, May 17, at the Battlefield Park picnic grove, 1.7 miles north of U. S. 66 on 234.

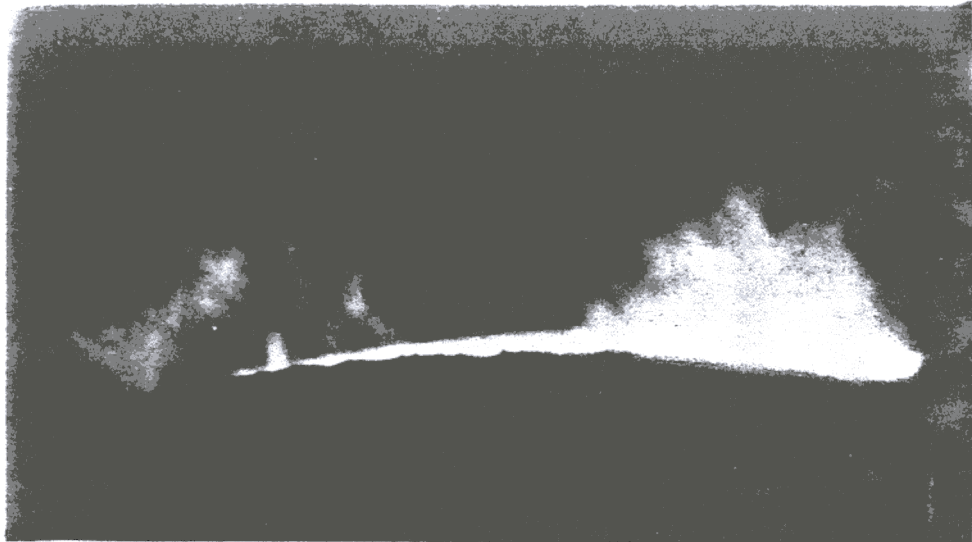
Please send proposals for papers and exhibit space to Bill Winkler, 1001 Rockville Pike, Apt. 1033, Rockville, Maryland 20852.

Please send checks made payable to Middle East Region Convention to Larry Torrance, Treasurer, 1224 Adams Road, Waldorf, Maryland 20601. Registration is \$2.00 or \$3.00 per family; banquet tickets including tax and tip are \$5.65 per person, and must be purchased before May 15.

NOTE ON CURRENT RESEARCH

Inge and Baum of Lowell Observatory report on their study of the relationship between Martian features as photographed from Earth and as photographed from Mariner 9 in orbit around Mars in 1972-1973.

They find no obvious correlations between Earth- and Mariner-observed features that hold true consistently over the entire planet. Some of the Earth-observed features are due to tenuous atmospheric scattering. Individual areas of high correlation include the dark Mare Sirenum to Mare Tyrrhenum region associated with mountainous terrain, and the reverse cases — the dark boundaries of western Syrtis Major and southeastern Acidalius associated with very flat terrain. Thus, Mariner 9 data, still undergoing analysis, raises many questions while supplying some answers. *Icarus*, 1973, pages 323-328.



PICTURE OF THE MONTH

Wolfgang Schubert captured this spectacular solar prominence activity in hydrogen alpha on Linagraph 2476 Shellburst film. He measured its height as 33,800 miles — more than four times the diameter of the Earth.

Schubert has combined his superior photographic ability and mechanical ingenuity to study details on the limb of the Sun. His hydrogen-alpha monochromator was described in *Star Dust*, April and June 1973.

NCA WELCOMES NEW MEMBERS

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EXCERPTS FROM THE IAU CIRCULARS

1. December 24 – C. T. Kowal, Hale Observatories, discovered two supernovae. One, of magnitude 16.5, was in IC 43 in Andromeda; the other in an anonymous galaxy in Ursa Major was of 17th magnitude.

2. January 28 – Dr. H. C. Arp, Hale Observatories, discovered a supernova of magnitude 20 in NGC 4156 in Canes Venatici.

3. February 12 – W. A. Bradfield, Dernancourt, Australia, discovered a comet in Sculptor. Comet Bradfield (1974b) was reported as of 7th magnitude with a short tail on February 14, by Perth Observatory. It is expected to reach 3rd magnitude at perihelion on March 19. Some predictions: March 4, 0h51m, -24°39m, m6.2; March 14, 1h33m, -13°17m, m5.0; March 24, 2h9m, +7°21m, m4.5; April 3, 2h29m, 33°42m, m5.1. Perihelion distance will be .5072 AU.

4. February 13 – P. Monk, Woolston Observatory, reports that Comet Kohoutek has again developed an antitail which showed a length of 15 minutes in a 40-minute exposure.

This listing courtesy Bob Bolster.

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