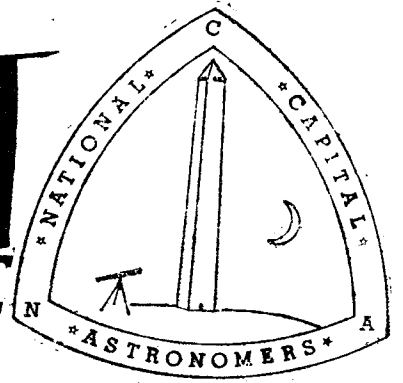
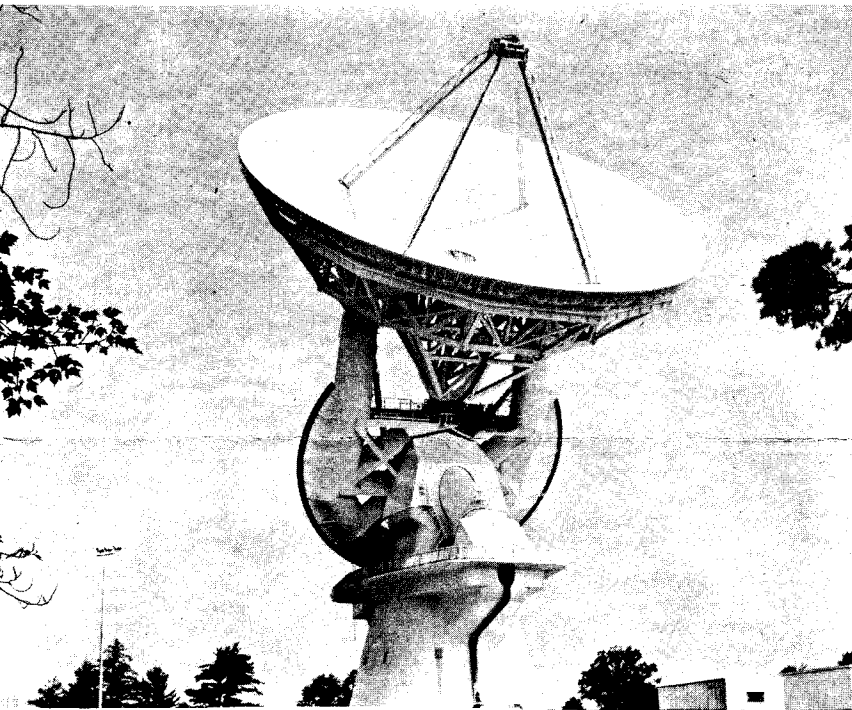


STAR DUST



FEBRUARY 1, 1971 *** VOLUME XXVII *** NUMBER 6 ***

Radioastronomy

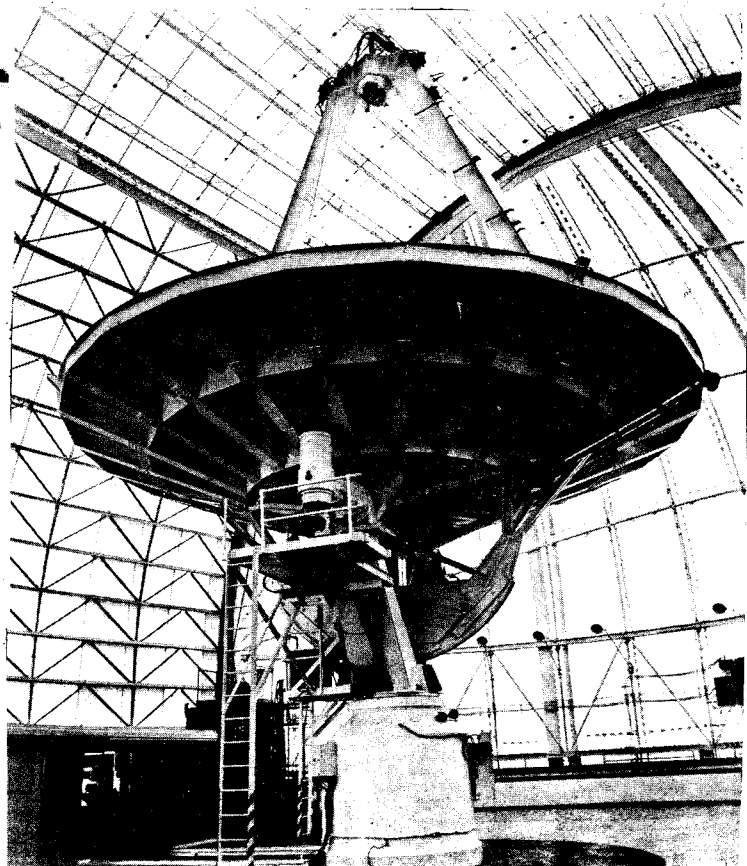


William G. Horne is presently the head of the engineering division of the National Radio Astronomy Observatory at Green Bank, W. Va. He graduated in 1948 from the Virginia Polytechnic Institute with a degree in Civil Engineering. He is presently licenced in Va. and Md. Prior to arriving at Green Bank he has worked for United States Steel, T.V.A., Esso and Arthur G. McKee Co. He joined the NRAO in 1962 as structural and mechanical engineer responsible for the design and maintain-

ence of telescopes.

Mr. Horne will discuss the construction of the 140 foot steerable radio telescope (above). He will show a motion picture which describes the complexities involved, the magnitude of the components used and the difficulties encountered in transportation and erection of the telescope. Also the assembly, and alignment of the telescope will be shown. A discussion will follow the points that make this telescope unique in its requirements, design of its antenna and the difficulties and design requirements of projected larger antennas.

J. T. L.



The Alert and Transient Effect system of rapid notification will officially begin this month. Whenever members of the system notice any transient astronomical phenomena such as aurora, etc. they are to phone the three alert system head: Bill Winkler: 762-5135; John Legowik, 946-8996; and Jean Radoane: 4340443. Give your location, position of the phenomenon, method of observation and when you first noticed it. If one or more of the heads are unavailable, begin the system by calling the next two persons in line. If anyone cannot be reached circumvent their number and call the next person in line. Copies of the alert network will be distributed to the members involved. If you should wish to become part of the network call the head of the network nearest you and leave your name, phone number, and the latest time that you would wish to be called. The following are the systems:: Winkler-1. Hudson 881-1589; 2. McMichael 396-2682; 2. Bradsky 949-8314; 1. Wright 384-6748; 2. Engle 256-5832; 2. Liebenau 534-7315; 3. Thomas 762-0419; 3. Olsen 365-5154;

3. Bennett 946-9420;:: Legowik:: 1. Bolster 765-1921; Miller 265-2942; 2. White 461-9681; 3. Heimpel 937-7561; 3. Walske 765-1221; 2. Williams 229-5187; 3. Hepworth 532-8939; 3. Dost 949-5035; 2. Wells 229-4938; 3. Culbertson 449-6477; 2. Freund 423-6259; 3. Barker 733-2135; 3. McAnaw 780-8905;:: Radoane:: 1. Fiekowsky 362-0488; 2. Fischler 424-8399; 3. Brown 229-0366;

continued page 5.



The officers and members of NCA wish to extend our sympathy to the family of Grady Whitney who passed away two weeks ago. J. T. L.



Above: Jerry Hudson uses a Foucault tester to observe the figure of Jerry Schnall's 6in. f/4 mirror.

To the Right: Bob McCracken explains laser projection through Jean Radoan's 6 inch reflector to study the diagonal diffraction patterns. Photos by Bill Winkler at the A.U. telescope making class during the recent telescope clinic held by the MD.-D.C. Junior's.

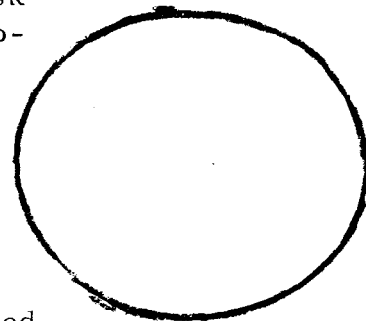


President's Notes

I urge everyone to participate in an NCA - wide observation program during February -- Simultaneous Planetary Observation Periods - Saturn: Between 7:30 and 8:30 P.M. on all Friday and Sunday in February, draw what detail you see on the disk of Saturn. Ignore the ring. Using any telescope and at least 150 power. Make all your drawings on tracings of the disk below. Use dotted lines to show outline of that part of the ring projected onto the disk. Don't forget to color the ring shadow projected on the disk black. Observing dates: 7:30-8:30 PM; Friday, February 12, 19, 26; Sunday, February 7, 14, 21 & 28th.

Hints on drawing the disk of Saturn:

1. Draw everything you see on the disk as accurately as possible.
2. It is important to place telescope outdoors 45 minutes before observing, to remove tube currents.
3. Make your sketches at the Telescope and submit the "raw drawings" to me, they will be returned.
4. Try different powers and focusing to find the best picture on a given night.
5. Use careful relative shading to show correct sequences of brightness from brightest details to darkest details. You may want to number them in order of brightness.
6. Don't discuss what you see on disk until all drawings have been made on a given night. We must have independent drawings, even though two or more different persons use the same telescope.



Bill Winkler

The January Speaker

In spite of movie screen difficulties, the January topic, Current Studies of Interstellar Molecules, was excellently presented by Doctor David Buhl of the National Radio Astronomy Observatory. Prefacing his talk with scenic slides showing the West Virginia location, the speaker also showed the console rooms and maintenance problems of the 140-foot equatorial telescope. Next, he discussed the complex radio spectra of some "deep sky molecules", including the OH-radical, methanol and cyanogen. Such studies offer the best hope of eventually discovering other life in the Universe. An extensive question period followed.

Bill Winkler

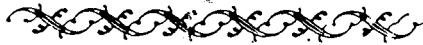


December Discussion Group***

Former president Sterling Anderson presented tape recordings of the most interesting talks of the 1970 Fall AAVSO meeting in Nantucket, including one by Dorrit Hoffleit. The AAVSO entertainment, chamber music played on ancient instruments, made this an extra-interesting session.

Bill Winkler

Calendar



- Saturday, February 6th, 6:15 P.M. Dinner with the speaker, Mr. Horn, NRAO, at Bassins, 14th and Pa. Ave. N.W. Call Legowik-946-8996 or Winkler -762-5135 for reservations.
- Saturday, February 6th, 8:15 P.M. Monthly meeting of NCA at the Department of Commerce Auditorium, 14th and E., N.W. Mr. William Horn, Chief Mechanical Engineer at NARO, will speak about the design and construction of the 140 foot equatorial Radio-telescope.
- Saturday, February 20th, 8:15 P.M. Discussion group, Department of Commerce, room 2062. Dr. Legowik will discuss the theory of vision and the physiology of the eye as related to the astronomer, dark adaptation and color vision.
- Telescope Making classes in the Basement of McKinley Bldg., American University Physics Building, conducted by Jerry Schnall. For more information call EM 2-8872.
- February 13th, Meeting of the Maryland-D.C. Juniors at the Chevy Chase Library on Connecticut Avenue. For more information call Jean Radoane at 434-0443. The lunar eclipse of the 9th and 10th will be discussed.
- Friday, February 19th. Viewing at the 5-inch Alvan Clark Refractor at the U.S. Naval Observatory with Larry White. For additional information call 461-9681. Time: 7:30 to 10:30 P.M.
- February 9th. Total Lunar eclipse.



"Eclipse Club" met at Colonel Sidney Opie's home on Friday the 22nd of January. Mrs. Opie served a delicious dessert buffet to aid us in our discussion. The topics were primarily the photography of the eclipse with considerable interest shown in the infra-red photography of the moon. Films discussed were Kodak black and white infra-red and also Ereo-Ektachrome infra-red color film. Among those attending were Bill Winkler, Bob Wright, John Eisele, Garrett Hyde, Don and Karin Allen, John Korintus, Darrel Freund, Jr. and Sr., John and Bonnie Legowik, George Gould and Sid Opie.

FOR SALE: 10-inch Astrola Cassegrain Telescope, 5 eyepieces, two finder scopes zoom eyepiece, clock drive, pier mount, for \$1500, for information call "John" at 462-9000 on weekdays.

NATIONAL CAPITAL ASTRONOMICAL SOCIETY
of Washington, D.C. **STAR DUL
President: William Winkler, 1001
Pike, Rockville, Md. 20852** Ed
Legowik, 3524 Hargö St., Wheatc
land, 20902, Phone; 946-8996



Mabel Sterns
3025 Ontario Rd
Washington, D.C.
20009