OBSERVATIONAL DATA

Mercury is poorly placed for observation in November, superior conjunction occurring on the 12th. Venus is a morning star visible in the east for about two hours before sunrise. Mars is in Aquarius, well up in the east at sunset and visible until after midnight. Jupiter has moved from Leo into Virgo and rises a few hours after midnight. Saturn is too close to the sun for observation, conjunction being on the 27th. The date for maximum intensity for the LEONID meteor shower is November 16. This shower averages 20 meteors per hour. There will be a total eclipse of the moon on the night of November 17-18. The period of the eclipse extends from 11:00 P. M. to 4:35 A. M., E.S.T. The period of totality is between 1:08 and 2:27 A. M.

---A. L. White

LUNAR OCCULTATIONS FOR MONTH

Date	Star	Mag.	Age	Phase	E. S. T.
11	51 Aqr m	5.8	9.4	D	9:20.9 P. M.
21	162 B. Gem	5.6	19.5	R	9:50.1 P. M.
22	84 B. Cnc	6.4	20.5	R	11:32.0 P. M.
22-23	A' Cnc	5.7	20.7	R	4:49.0 A. M.

STELLAR CLASSIFICATION - The subject for the November Discussion Group comes to us from the very threshold of astronomy. The word itself was devised by the Greeks who sought to "Arrange the Stars" for easier reference. The subject of Stellar Classification allows for a wide range of discussion and should prove to be of interest to all those intent on improving their knowledge of the Heavens and its numerous sources of light. We shall learn much about naming and charting, spectroscopy, magnitude, nebulae, and variable stars, etc. The greater the participation, the more we are likely to learn, since the chief purpose of these meetings is to exchange knowledge acquired through our various experiences.

---Bob Brown

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Jewell Boling, Editor 1717 P Street, N. W. NO 7-7693

STAR DUST
National Capital Astronomers

November 1956 Vol. 14, No. 3

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NOVEMBER CALENDAR

Nov. 3 (Sat.) "THE REDEFINITION OF THE SECOND," Dr. William D. Markowitz, Director of the Time Service Division of the Naval Observatory. Department of Commerce Auditorium, 8:15 P. M.

Nov. 9 (Fri.) GROUP OBSERVING, NCA 5" at the Naval Observatory with Bill Isherwood, 8:30 P. M.

Nov. 17 (Sat.) DISCUSSION GROUP with Bob Brown on stellar classification. Department of Commerce Foyer, 8:00 P. M.

TELESCOPE MAKING CLASS with Hoy Walls each Monday evening at 7:30 P. M., Chevy Chase Community Center, 5600 block of Connecticut Avenue. Mr. Walls 'phone number is OL 2-5395.

"THE REDEFINITION OF THE SECOND" - In September 1955, the I.A.U., International Astronomical Union, adopted new definitions concerning the measure of time. The new definitions were necessary because of variations in the speed of rotation of the earth. The unit of time was formerly defined as a fraction of the mean solar day, but is now defined as a fraction of the tropical year for 1900.0. New definitions were also adopted concerning universal time.

Dr. Markowitz's talk will concern these new definitions, the use of the moon position camera in determining uniform time, and the role of the atomic frequency standard.

---R. F. Heisey

SATELLITE OBSERVING NEWS. Bob Dellar has accepted the chairmanship of the Satellite Observing Committee, and his co-chairman will be Roger Smith. An observing team is being formed, and everyone is urged to participate to insure our success in tracking down the satellite. Please contact either Mr. Dellar or Mr. Smith as soon as possible if you have not done so already.

At the October business meeting the possibilities of obtaining contributions for equipment for satellite tracking were discussed. It was announced that four of the twelve special telescopes necessary for the tracking had already been made by individual members, and three more were promised from other members. These instruments will be turned over to the Satellite Committee for the entire Geophysical Year. However, much more equipment will be needed, and the availability of funds for this purpose was considered. Bob Dellar read a letter from the Seven-Up Bottling Company to the effect that their firm is interested in sponsoring satellite tracking teams throughout the country. The membership voted that the decision as to whether we would accept such sponsorship, if offered to us, should rest with the trustees and the satellite observing chairman.

--Everette Neville

1956 SUMMER ACTIVITIES. Our members have done a wonderful job this summer with the park program. Exploring the Sky, at Ft. Reno Park. The final session on October 13 wound up the season with one of the best turnouts of the year. One member counted 14 telescopes and about 250 people present. Thanks to all the members who have so generously given their time - and wear and tear on their telescopes - to this program, and special thanks to Ellis Marshall for conducting this last meeting.

Many members have also provided their services for other civic activities. During October for instance, Col. Partridge brought his telescope down to the Burgundy Day School to show the children the wonders of the sky. Another of our very active members, Bill Doying, conducted a session with a girl scout troop to help them

New Members

REGULAR

John Curtis 5015 Garfield Street Washington, D. C.	KE 7-0210
Ashton P. Roy 4528 Raleigh Avenue Alexandria, Virginia	No phone given

JUNIORS

Fred Ellis 2406 Reedie Drive Wheaton, Maryland	LO 5-0377
Roger A. Holt 1520 No. 17th Street Arlington, Virginia	JA 5-5828
Stephen Klingelhofer 7009 Glenbrook Road Bethesda, Maryland	OL 4-7913
Norman Melnikoff 3639 Alton Place, N. W. Washington 8, D. C.	EM 3-3639
Frank Rooney 913 East Meadows Court Washington 21, D. C.	No phone given
David B. Russell 1558 No. 17th Street Arlington, Virginia	JA 2-4255
Christopher W. Walker 7101 Glenbrook Road Bethesda 14, Maryland	OL 4-3572

Change of Phone Number

Lyle T. Johnson - WEst - 4-4081

earn their astronomy merit badge. A new request from a girl scout troop in Bethesda has just been received. Is there one more volunteer? Please contact me at JA 7-4130.

---Everette Neville

PUBLICITY KICK-OFF FOR THE MOON WATCH PROGRAM - Bob Wright's backyard in Silver Spring on Saturday, October 13, was the stage for a satellite observing operation filmed and recorded by CBS-TV, the Voice of America, UP and AP, and a number of Washington and Baltimore papers.

An observing team of NCA members and Astronomical League visitors from Pittsburgh and Richmond went through the operation of going to their stations, spotting the satellite (a big red balloon) and reporting by radio its declination and time of passage over the meridian. Mr. Armand Spitz, coordinator of the Moonwatch program and Bob Wright, Chairman of the League's stations in the United States, narrated the operation for the TV cameras. This station, including the observing monoculars, was designed and built largely by Bob Wright, Bob Dellar, Hoy Walls, and a number of other NCA members. Bob Dellar, who is heading up the NCA observing team, invites all persons who are interested in participating to get in touch with him.

---Dana K. Law

SYMPOSIUM ON OPTICS AND MICROWAVES - This is to be held at Lisner Auditorium, the George Washington University, November 14-16, to promote interest in the common problems associated with optics and microwaves and demonstrate that these lie within the scope of modern theoretical and practical optics in such diverse fields as human vision and astronomy. Advance registration is $2.50 and may be made by mail to "Symposium on Optics and Microwaves", P. O. Box 355, Falls Church, Virginia. Registration at the door will be $3.50.

---Dana K. Law

DR. JAMES B. EDSON, a scientist in the Office of the Chief of Ordnance, Department of the Army, discussed the planet Mars in a lecture to the National Capital Astronomers on October 6. He pointed out that while Mars is a very difficult object to observe, it has been closely studied for many decades. For example, the thirty-inch refractor at the Lowell Observatory in Flagstaff, Arizona, has been used to observe Mars for more than fifty years. Yet, despite this, there is a great deal about the red planet that is still uncertain.

On the other hand, astronomers can study an entire hemisphere of Mars at once. They are therefore able to begin working out the main features of the world climate of Mars such as the movement of its air masses, the formation of low pressure areas around the north and south polar caps, and the appearance and disappearance of cloud banks on the dawn and twilight regions of the planet.

When Dr. Edson first came to the Lowell Observatory, he set himself the problem of determining the atmospheric pressure on the surface of Mars. This is a very difficult problem and no certain answer has yet been found. Most astronomers agree that it is somewhere between forty and one hundred millimeters of mercury. The best guess is 70 mm. For comparison, the atmospheric pressure on the surface of the Earth is 760 mm while at 40,000 feet it is 150 mm.

Space travelers exploring Mars will probably have to wear some kind of space suit. If you went there, you would have to sleep in an inclosed, heated, and respirator-equipped sleeping bag--if you were out in the open. You could, however, use ordinary tools easily for they would weigh about four-tenths of their earth-weight. Your expedition could travel in autos and planes but the auto and airplane engines would have to run on monofuels that burn by themselves without requiring oxygen. Planes, by the way, could fly over Mars despite its thin atmosphere, since the low gravity would be an aid to flight.

---Benjamin Adelman