SATELLITE OBSERVING - Moonwatch Teams were alerted to watch for a second Russian satellite which was to be launched a few days before November 7. However, radio signals from the new satellite were picked up on November 2. The passages over the Washington area were not in twilight periods. The morning passages occurred about ten minutes later each day, and it was believed that there was a chance of seeing the rocket in Washington on the morning of the sixth. It appeared a little east of the south point and obtained an altitude of about 8° in the southeast. It was brighter than first magnitude for a part of its path across the sky.

The next morning the rocket crossed the meridian in the shadow and was observed low in the east. It was too low to be seen through the fixed telescopes of the Moonwatch stations. Friday was cloudy and the Minitrack stations reported that it had passed through Wheeling, West Virginia, some two hundred miles west of Washington. Although Saturday morning was clear, the rocket was unobserved evidently hidden by the earth's shadow. Both Russian satellites are expected to be visible again early in December.

--- A. L. White

Note: I saw Sputnik II (from my fire escape) as it came out of the earth's shadow on the morning of November 7. It was about 75 degrees above the horizon I judged.

--- J. Boling

* *

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

STAR DUST
National Capital Astronomers

December 1957 Vol. 15, No. 1

* *

DECEMBER CALENDAR

Dec. 4. (Wed.) In Room 112, Falls Church High School, at 7:30 P. M., Bob Brown will meet with JUNIORS OVER 12.

Dec. 7 (Sat.) "THE MOST IMPORTANT PART OF THE TELESCOPE - THE EYE", Brigadier General Victor A. Byrnes, M. D., Director, Professional Services, Surgeon General, U. S. Air Forces. Department of Commerce Auditorium, 14th and E Streets, N. W., at 8:15 P. M. The public is invited.

Dec. 14 (Sat.) Maryland and D. C. Juniors over 12 meet with Leith Holloway at the Chevy Chase Community Center, 5601 Connecticut Avenue, N. W., at 2 P. M. Discussion topic: Nebulae and Galaxies. Call Leith at FE 3-7796.

DISCUSSION GROUP FOR DECEMBER and GROUP OBSERVING at the Naval Observatory have been canceled - too near Christmas.

EACH MONDAY NIGHT except during Christmas and New Year the TELESCOPE MAKING CLASS meets with Roy Walls at the Chevy Chase Community Center.

"THE MOST IMPORTANT PART OF THE TELESCOPE - THE EYE", the topic of the December lecture is a new one for the NCA. Dr. Byrnes who gives the talk is a teacher and specialist in matters pertaining to the human eye. Born in Iowa in 1906, he took his medical degree at the University of Iowa in 1929. From 1930 onward, he has specialized in the study of eyes and how they work.

Between 1930 and 1934 he taught over 5,000 doctors the methods used in Aviation Optholmogy. At the same time he found out about the effect of "Atomic Flash" on the human eye. Dr. Byrnes was given the Gorges Award for his work in this field.

--- Morton Schiff

REPORT ON TELESCOPIC OBSERVATION OF ALPHA I

Bob McCracken reported the following telescopic observation of Alpha I on Sunday night. He trained an 83 mm refractor with 1/2° field at 80 times magnification on the rocket as it came into view from the West with a magnitude of 0. Through the telescope he was able to observe that it was slowly tumbling or rotating clockwise as seen from below. He was able to observe that a one-fourth turn was made in about a minute. He estimated the length of the rocket to subtend about 5' of arc. From this he estimated that the rocket was about 50 feet long if its altitude was 250 miles or 40 feet long if its altitude was 200 miles. He came to this conclusion from mentally comparing it with the size of a moon crater of that size. He was well aware, he said, of the difficulty of comparing a short bright line segment on a dark background with features on a bright lunar background. Unfortunately, there is just no standard against which to evaluate an observation such as this.

After observing the rocket for about a minute through the telescope it dwindled to a point. He observed it until it was about 10 degrees above the horizon at azimuth of 150 degrees from his location.

LUNAR OCCULTATIONS FOR DECEMBER

Date	Star	Mag.	Age	Phase	E. S. T.
Dec. 10	A^1 Cne	5.7	19.5	R	11:04.7 P. M.
10-11	A^2 Cne	5.7	19.6	R	1:29.0 A. M.
15-16	Alpha Vir	1.2	24.8	D	4:09.0 A. M.
15-16	Alpha Vir	1.2	24.8	R	5:15.1 A. M.
23	Beta Cap	3.2	2.7	D	5:46.1 P. M.
24	Nu Aqr	4.5	3.7	D	5:43.7 P. M.

--- A. L. White

OBSERVATIONAL DATA FOR DECEMBER

Mercury reaches greatest eastern elongation on December 7 and may be seen for several days at this time low in the southwest just after sunset. Venus obtains greatest brilliancy on the 23rd and is visible for several hours after sunset. Mars is in Libra and may be seen in the southwest for a few hours before sunrise. Jupiter rises several hours after midnight and is visible in the southeast until dawn. Saturn is too close to the sun for observation this month, conjunction being on the 8th. The date of maximum intensity for the GEMINID meteor shower is December 12. This shower averages 30 meteors per hour.

--- A. L. White

Observations of NCA Moonwatch teams on Sunday and Monday nights established the rotation time of Alpha 1 to be four minutes.

JUNIOR ACTIVITIES OF THE NCA

The junior activities of the National Capital Astronomers are led by Leith Holloway and Bob Brown. D. C. and Maryland Juniors over 12 meet with Leith Holloway on the second Saturday afternoon of each month at the Chevy Chase Community Center for astronomical discussion unless there is a field trip planned. All Virginia Juniors meet with Bob Brown at regular intervals.

During 1957 the Juniors went on two field trips. One was with the senior members to the Spitz Laboratories in Yorklyn, Delaware in May to inspect the new Air Forces planetarium instrument. The second trip was out to the NCA Satellite Observing Station in Springfield, Virginia. In addition to the meetings and field trips the Juniors participated in several Aurora alerting networks whereby members can be informed by phone quickly and in a systematic manner of any Northern lights display or other equally interesting rare astronomical phenomenom. For further details call Leith Holloway at FE 3-7796 or Bob Brown at KE 6-8059.

"MARS AND BEYOND", one of the Disneyland Series, will be carried on WMAL Channel 7 on December 4. This hour-long show was previewed by Bob McCracken along with educators, science reporters, etc. Bob recommends this as excellent if the several extrapolations into science fiction are carefully distinguished from the valid scientific projection.

SOME NOVEMBER SATELLITE OBSERVATIONS

Leith Holloway has been kept busy computing orbits. From his computations a mass of observations have been made. Sam Field spotted Sputnik I on Sunday night. There had been no reported observations since October. His fix was at 6:39;36. It was travelling somewhat lower than Alpha 1 but along the same general path.

Alpha I was widely observed Sunday night. In the words of Morton Schiff "(it) appeared in Ursa Major about one second of arc west of Epsilon... It blinked from maximum to zero in Pegasus and back again, then disappeared behind my roof at exactly 6:03:55 P. M. As it went out of sight low in the East Jewell Boling saw it flash such a deep red color she believed at the time that the rocket was heating up prior to disintegration.

Observations of the rocket were widespread again on Monday night. The Springfield Moonwatch team made a fix at 6:15:36 on a line drawn through Venus and the Moon. Bob McCracken took a fix at 6:15:46 on a line between Alpha and Beta Capricornus.

Fewer observations were made on Tuesday night. Leith Holloway, Bob Dellar, and some others observed it, passing low in the West at 5:25 P. M. on a line just below Venus. One non-Moonwatch observation was made by Jewell Boling who saw it at the very lowest limits of visibility (fourth magnitude or less) pass from the West just below Venus and out of sight into the South.