

579

★ STAR DUST



May, 1960

Vol XVII, No. 9

REMEMBER IN MAY

- 2,9,16,23,30 - TELESCOPE MAKING CLASS -7:30-10 PM, Chevy Chase Community Building, 5601 Conn. Ave., Hoy Walls, Instr.
- 4,11,18,25 - TELESCOPE MAKING CLASS - 7:30-9:30, Bladensburg Mat. Center, 4600 Varnum St., Bill Isherwood, Instr.
- 6,13,20,27 - TELESCOPE MAKING CLASS, 7:30 PM, Fairfax High School, Grady Whitney, Instructor
- 7 - HIGH ALTITUDE ASTROPHYSICAL OBSERVATIONS with DR. JOHN STRONG, Business meeting and elections follow, Dept. of Commerce Auditorium, 8:15 PM
- 13,27 - VIRGINIA JUNIOR MEETINGS at Westover Baptist Church, 1125 N. Patrick Henry Dr., Arlington, Va., Room 234, 8 PM
- 14 - MD-DC JUNIORS MEETING - Chevy Chase Community Building, 5601 Connecticut Ave., NW, 2:30 PM. The topic will be "A Critical Discussion of Astrology."
- 14 - JUNIOR CONVENTION. All juniors invited. Dept. of Commerce, Room 1851, 8:00 PM.
- 20 - OBSERVING AT THE 5" - 8:30 PM at the Naval Observatory with Larry White. NCA card will admit you.
- 21 - DISCUSSION GROUP - "Astronomical Mythology" led by Betty Lipscomb, Dept. of Commerce Foyer, 8:00 PM.

HIGH ALTITUDE ASTROPHYSICAL OBSERVATIONS TOPIC OF NCA TALK



DR. JOHN STRONG

The outstanding success of the Johns Hopkins balloon spectroscope project in verifying the presence of water vapor in the atmosphere of Venus last November is profoundly affecting the ideas of astronomers concerning the surface conditions on this planet. These important observations of water on Venus were made by two scientists using a spectroscope mounted on a 16-inch telescope aboard a balloon gondola floating 80,000 feet above the ground. Dr. Strong designed the instruments for this great flight and is therefore well qualified to discuss the methods of observation used and the results obtained on this flight. He will also review the uses of balloons and high-altitude aircraft for making astrophysical and meteorological observations.

Dr. Strong is a world renowned physicist and is an excellent speaker. He has been a professor of physics at the Johns Hopkins University since 1945. He obtained his PhD in physics at the University of Michigan in 1930, and, before coming to Johns Hopkins, he taught and did research at Cal. Tech. and Harvard. His specialties include experimental physics, infrared spectroscopy, meteorology, optics, and astrophysics. He has written many books and papers on these subjects and the NCA is most honored to have him as their guest speaker on May seventh.

"You unseen force, centripetal, centrifugal, through space's spread,
 Rapport of sun, moon, earth, and all the constellations,
 What are the messages by you from distant stars to us?
 What Sirius? What Capella?
 What central heart--and you the pulse--vivifies all?
 What boundless aggregate of all?
 What subtle indirect and significance in you? What clue in you?
 What fluid, vast identity?
 Holding the universe with all its parts as one--
 as sailing in a ship."

Walt Whitman



YOU GAVE ME QUITE A START, I THOUGHT FOR A MOMENT IT WAS A BILL COLLECTOR!

★ STAR DUST



Published monthly by and for the NATIONAL CAPITAL ASTRONOMERS, INC., a non-profit, public service organization promoting interest and education in astronomy and the related sciences. President, Mrs. Lillian R. Gregor; Vice-President, Leith Holloway; Secretary, Mrs. David Eckhart; Treasurer, William Lipscomb. The Trustees: Alexander L. White, Mrs. William Lipscomb, Glenn E. Neville, Leo W. Scott. Editor, Mrs. Paul E. Griffith, GLA-5996; Assistant Editor, Mrs. Washington Falceiti; Photography and Production, Sam G. Field, Jr. Deadline tenth of each month.

MOON MESSAGES

On April 2, 1960 we heard a talk on "Radio Emission of the Moon and Planets" by C.H. Mayer of the U.S. Naval Research Lab.

In the past ten years it has become practical to observe the radio emission of the moon and some of the planets. Although they emit thermal radiation most efficiently in the infrared; the weaker thermal radio emission can be measured with comparable or greater accuracy.

In 1955 Burke and Franklin identified a 15 meter 'inference noise' as having its origin on Jupiter. Jupiter has been heard from 3 to 68cm; the short end being thermal and the long end non-thermal. It is believed that Jupiter may have orbiting electrons as in the earth's Van Allen Belt.

Venus is picked up at 8.6mm to 10cm and radiated as a black body, but at a different temperature than would be expected from our knowledge of solar heating. Saturn at 3.75 cm is extremely weak and not very accurate. Mars at 3cm is weak, but, by averaging a number of scans, meaningful data can be obtained.

The moon has temperatures from 120°K to 373°K at the surface. Scans show a sinusoidal variation with phase, the maximum coming 3½ days after full moon, but the amplitude is not as great as would be expected from surface temperatures. It is believed that the rocks are transparent to radio waves, thus amplitude depends on depth of penetration. The lunar seas heat and cool faster than their surroundings. The moon's very low thermal conductivity suggests a powdered material under vacuum.

In this field we have only begun to explore the vast opportunities for greater knowledge of the universe.

Ellen G. Stolarik

OBSERVERS ATTENTION

An unusual event will take place between April 29th and May 1 when Saturn will occult a 9th magnitude star. Only approximate times are given. April 29 at 23 hours is the time for the outer edge of the Ring to hit the star and April 30 at 10 hours is the time for the limb of Saturn to hit the star.

The March observing session was very successful with around twenty-five turning out. Too much time seems to be spent on other matters, however. This could be greatly helped if everyone would just remember to sign in and out and to follow all of the proper observatory procedure. It was a very interesting session and well run in spite of the large group.

Observers will be interested to know that Comet Burnham is visible in the cup of the Big Dipper. As of this writing, it is located between the two bottom stars, but is moving slightly every night.

A balloon satellite launching, which will place a visible satellite in the sky, is also momentarily expected. If successful, it should be visible in the SE sky at 10:50 and 12:58 on the 5th and at intervals for about a week.

JUNIOR DIVISION NEWS

The Junior Convention will be held on May 14 at the Department of Commerce in Room 1851. The time of the meeting will be 8:00 P.M. Everyone realizes the importance of this convention, so we are sure that you will need no urging to attend.

The Lunar Eclipse on the morning of March thirteenth drew a large number of Junior observers to the N.C.A.'s 5" at the Naval Observatory. Although the crowd thinned out after the totality, Juniors were observing throughout the entire eclipse. The various phases of the eclipse were timed by the use of WWV's time signals.
Jim Harrison

VIRGINIA JUNIORS

Many of the Juniors in Virginia were out to see the Lunar eclipse last month. One group at Edward Craggs' house observed the moon all night, took 22 pictures, and made a tape of all observations. We would like to thank the Craggs for their hospitality.

The recent bright aurora of March 31 brought out more observers, and its fluxuations were recorded by a large portion of our group.

On March 25, the observers in our group were once more observing - this time at the five inch where four of the Virginia Juniors qualified to use the telescope.

Mr. Ronald A. Medford, a member of the time service at the Naval Observatory, was kind enough to address our meeting on April 22nd. The topic of his talk was "Precise Time Determination." We would like to thank Mr. Medford for taking the time to present this fine lecture to us.

Our "Book of the Sky" program is progressing in fine style. We hope to have a detailed observational report on the sun ready by the end of the summer.

Any Virginia Junior wishing to take part in our activities is welcome to call me at JE 2-1678 for complete details.

Barry Sperling---

* * * *

NEW MEMBERS

REGULAR

Kirchner, Dr. Francis G.	9203 26 Ave., Hyattsville, Md.	EE 4-2142
Shelley, Miss Maryann B.	3310 P St., NW., Wash. 7, DC	FE 7-2865

JUNIORS

Cohen, Gary M.	2401 River Oaks Dr., McLean, Va.	EL65028
Cragg, Edward E.	5117 N. 33rd St., Arl. 7, Va.	KE84261