

STAR DUST
National Capital Astronomers

November 1955

Vol. 13, No. 3

NOVEMBER CALENDAR

- Nov. 5 "THE ELECTRO-MAGNETIC SPECTRUM IN ASTRONOMY-
(Sat.) FROM COSMIC WAVES TO RADIO WAVES," Dr. A. Edward
Lilley of the Naval Research Laboratory, Washing-
ton, D. C. Commerce Auditorium, 8:15 P.M.
- Nov. 18 GROUP OBSERVING at the NCA 5" at the Naval Obser-
(Fri.) vatory with Hoy Walls. Your NCA pass will let you
in the gate. Time: Beginning about 7:30 P. M.
Take a rain check in case of overcast sky.
- Nov. 19 DISCUSSION GROUP. Instrument, Photograph, and Slide
(Sat.) Session. Bring your portable telescopes, camera
attachments, celestial globes, pictures, slides,
interesting books, and come prepared for a good ex-
change of ideas. Commerce Foyer, 8:00 P. M.

Each Saturday morning, Telescope Making Class at Chevy
Chase Community Center, 5600 block of Connecticut Avenue,
9-12 A. M. For more information contact Mr. Hoy Walls at
Oliver 2-5395.

"THE ELECTROMAGNETIC SPECTRUM IN ASTRONOMY- FROM COSMIC
RAYS TO RADIO WAVES." - Until recently, astronomers could
view the world we live in only through the very narrow band
of electromagnetic radiation called light. Today, astronomy
can study the riches of the universe by means of almost the
entire electromagnetic spectrum all the way from incredibly
tiny waves a billionth of an inch long to radio waves a
sixth of a mile across. As a result, astronomers have been
able to penetrate the dense center of the Milky Way, have
detected collisions of vast galaxies made up of millions of
stars and have found clouds of hydrogen drifting through
space. Dr. Lilley will describe these and other exciting
discoveries and will show color slides of the giant 250

radio telescope now being completed at Jodrell Bank, England. He will also discuss the plans for using this huge instrument to study our own solar system as well as the further reaches of the universe. Dr. Lilley holds a Ph. D. degree in astrophysics from Harvard University and is a specialist in the field of radioastronomy.

--Benjamin Adelman

NCA EXTENDS INVITATION FOR MIDDLE EAST REGIONAL CONVENTION

October 9, 1955

Miss Elizabeth M. Fazekas
Chairman, Middle East Regional Council
2621 Garfield Street, N. W.
Washington 8, D. C.

Dear Miss Fazekas:

The National Capital Astronomers decided at the business meeting held on October 1, 1955 to extend an invitation to the member-organizations in the Middle East Region to hold the 1956 convention in Washington, D. C.

In case you should send copies of this invitation to our member-organizations, you might express the intention of the NCA to make the convention as pleasant and interesting as possible.

Also we feel that Washington offers much in the way of an opportunity for a visit, and sight-seeing in the nation's capital.

Very truly yours,

Tove Neville

Secretary, National Capital Astronomers

TRUSTEES RECOMMEND CHANGES IN BY-LAWS- The trustees at a meeting on October 15 voted to recommend to the membership a change in Section 2 of the by-laws to permit the application for membership by children under 12 years of age to be acted upon by the members upon recommendation of an adult member sponsoring a neighborhood junior astronomer group. This would exempt such children from the requirement that they submit their applications in person to the membership committee. The proposal will be voted upon at the December 3 business meeting.

FOR SALE -- A 3-inch Bardou refracting telescope with mount, tripod, diagonal and two eyepieces. \$150.00. L. W. Holland, Telephone - JE 2-3181.

NOVEMBER 19 DISCUSSION GROUP. Bob Wright's

October Discussion Group on Observing was so successful from the standpoint of member participation that the November Discussion Group on Instruments, Books and Photographs will be patterned along the same line. Each member attending the November Discussion Group is urged to bring some instrument, device, or book. This might include:

- | | |
|---------------------|--------------------|
| interesting books | celestial globe |
| star finders | sun viewers |
| your telescope | telescope cameras |
| astronomy charts | solar models |
| pictures | odd binoculars |
| scrap book | and what have you? |
| astronomy note book | |

Bring something with you that you've taken a fancy to; be it just a book or a 12" telescope. We also plan a demonstration on telescope making and some Louisville convention slides.

HOY WALLS NOMINATED TO FILL REGIONAL COUNCIL POST.

At the October meeting Betty Fazekas, Chairman of the Middle East region announced her resignation as NCA representative on the Regional Council. A nominating committee composed of Bob Wright, Ione Alston, and Bob Dellar has nominated Hoy Walls to fill this vacancy in the three-year term expiring September 1957. Further nominations will be received from the floor at the November 5 meeting and members will vote on the nominations. In accordance with recent Astronomical League action the president of each society is also an ex-officio member of the Regional Council.

ANYONE HAVE NEWS FOR STAR DUST?

If so, how about writing it up and sending it in for the December issue.

DO THE NEARBY STARS HAVE PLANETS? - Dr. Peter van de Camp.

The nearest star, Alpha Centauri, is 4.29 light-years away or 7,000 times as far as Pluto. The sun would look like a bright star from a planet revolving around Alpha Centauri. It would appear to be about as bright as Betelgeuse does to us. But, Jupiter itself wouldn't be visible to the Alpha Centauris astronomers even if they were looking for it through a 200-inch telescope like the one at Mt. Palomar Observatory. At present, astronomers cannot see even giant planets around our nearest star through our biggest telescopes. Perhaps, improvements in television techniques applied to telescopes will make such objects visible. Just the same, even an object the size of Jupiter will be extremely difficult. A planet the size of the earth would be much harder to detect, of course.

The method used by the Sproul Observatory to detect bodies around the nearby stars is to measure the tiny wobbles in the tracks of these stars for a period of many years. The astronomers at the observatory have already found several invisible stars and one of them has been seen and photographed. These discoveries are made possible by the law of gravity which tells us that when two stars go around each other, the lighter star still pulls on the other even when it is too faint to be seen. The first star to be found in this way was the companion of Sirius, discovered by the great astronomer, Bessel, in 1844. The same method, of course, can be used to find planets around stars, if we could measure the very tiny wobbles that they would make. This is extremely hard to do. If Alpha Centauri had a planet like Jupiter and as close to it as Jupiter is to the sun, that planet would be one hundredth of a second of arc away from the star. This is about the smallest angle that can be measured today. It is about equal to the diameter of a dime measured from downtown Washington, a distance of 240 miles. The perturbation or wobble caused by a planet would be one tenth as much.

The Sproul Observatory has been keeping track of 100 stars within 30 light years of the sun. One of the stars they watch is Ross 614 which has shown perturbations. Year after year they followed the star until four years ago, they knew all about its motion. Miss Lippincott of the Observa-

tory staff calculated that it had an unseen companion star that revolved around Ross 614 in $16\frac{1}{2}$ years. She found that it would be furthest away from Ross 614 in the spring of 1955. Dr. van de Kamp asked Dr. Walter Baade of Mt. Palomar Observatory to look for the star. Dr. Baade said he would, but he had only four nights at his disposal with the 200 inch in the month of February. On each of the nights, the weather was bad. Only three nights were left in March and after that Ross 614 would leave the night sky and the opportunity of seeing the unknown star would not come again for 16 years. On March 23rd, the very last night he could see it, Dr. Baade looked and there it was. The companion of Ross 614 is the smallest known star. It weights only seventy times as much as Jupiter.

----Benjamin Adelman

OBSERVATIONAL DATA

Mercury may be seen during the first few days of November near Spica low in the southeast just before sunrise. Venus is an evening star which may be seen near the southwestern horizon just after sunset. Mars is near Spica in Virgo and is visible in the south-east for a few hours before sunrise. Jupiter is close to Regulus and rises about midnight. Saturn is too close to the sun for observation, conjunction being on the 16th. The date of maximum intensity for the LEONID meteor shower is November 16. This shower averages 20 meteors per hour.

LUNAR OCCULTATIONS FOR NOVEMBER

<u>Date</u>	<u>Star</u>	<u>Mag.</u>	<u>Age</u>	<u>Phase</u>	<u>E. S. T.</u>
Oct. 31-Nov. 1	63 Ari	5.2	16.5	R	4:24.5 A. M.
Nov. 1-2	Kappa Tau	4.4	17.5	D	2:33.7 A. M.
Nov. 1-2	67 Tau	5.4	17.5	R	3:49.4 A. M.
Nov. 1-2	Kappa Tau	4.4	17.5	R	3:51.2 A. M.
Nov. 2	108 Tau	6.2	18.3	R	8:35.9 P. M.
Nov. 2-3	BD / 22 ^o 925	6.5	18.5	R	3:57.7 A. M.
Nov. 20	Tau Cap m.	5.3	6.4	D	5:31.7 P. M.
Nov. 22	44 Aqr	5.8	8.5	D	9:00.3 P. M.
Nov. 23	BD -1 ^o 4393	7.4	9.6	D	10:39.3 P. M.
Nov. 24	BD / 3 ^o 4909 m	6.9	10.6	D	10:36.3 P. M.

--A. L. White

WE WILL HAVE FOUR NEIGHBORHOOD CLUBS FOR JUNIOR-JUNIORS
in full swing by the end of October and we need more members
for the Junior Astronomers' Committee to start new clubs.
I have had quite a few inquiries from parents about clubs
in their vicinity. We need help!

--Benjamin Adelman

NEW MEMBERS

- J. Leith Holloway, Jr. Apt. #743, 2800 Quebec Street, N.W.
Washington 8, D. C. EM 2-6900
- Jose A. Garcia, 1614 Newton Street, N.W.; Washington 10, D.C.
NO 7-6743
- Robert H. Jones, 3067 Ordway Street, N.W., Washington 8, D.C.
WO 6-8990
- *Tom Martin, 15 Cedar Street, Alexandria, Va. KI 8-7786
- *Carolyn Jean Murphy, 2919 South Dakota Avenue, N. E.
Washington 18, D. C. NO 7-4859
- Martin Rubinowitz, 3506 Livingston St., N.W., Washington 15,
D.C. WO 6-3381
- *Henry Seiff, 106 Summers Drive, Alexandria, Va.
KI 9-8174

CHANGES OF ADDRESS

- A. L. White, 310 Rollings Street, Falls Church, Va.
JE 3-3261
- Howard Schwartz, 1215 Walsh Ave., Apt. B, Miami University,
Coral Gables 46, Fla.
- R. A. Soucy, 508 Monroe Place, Falls Church, Va.
Correction: Sylvia Bush has no telephone. She was
listed last month as having a telephone.

* * * * *
Jewell Böling, Editor, 1717 P Street, N.W. (6) NO 7-7693