

ASTRONOMICAL LEAGUE MESSIER CLUB

Ernest Braund is the first NCA member to be awarded an Astronomical League Messier Club Certificate, for having observed seventy of the Messier Objects. This certificate will be presented at the May NCA meeting. Congratulations to Mr. Braund! Who will be next?

CORRECTION - Please make the following corrections on your Mastheads of the March and April issues of STARDUST:

They should have read: XXIV, Nos. 7 and 8 respectively instead of XXIV, Nos. 2 and 3 respectively.

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May 1967

Vol. XXIV, No. 9

GODDARD SCIENTIST TO ADDRESS NCA

Dr. Werner M. Neupert, of the Laboratory for Space Sciences, Solar Physics Branch, at Goddard Space Flight Center will be the guest speaker at the May meeting. Dr. Neupert will present a review of Solar X-Ray and ultra-violet astronomy and discuss recent results of rocket and Satellite-borne experiments in these disciplines.

Since joining Goddard Space Flight Center in 1960, Dr. Neupert has been very active making spectroscopic studies of the sun at the previously mentioned wavelengths as well as designing and constantly refining the instrumentation employed in these investigations. Dr. Neupert has conducted many successful experiments flown from rockets and satellites in the OSO Series and has been a frequent contributor to the scientific literature on results obtained from this work.

Prior to joining Goddard, Dr. Neupert had been visiting Assistant Professor at the University of California, 1959/1960, and a Teaching and Research Assistant at Cornell University from Sept. 1957 to Aug. 1959. Our speaker holds B.S. '54 in Physics from Worcester Polytechnic Institute and Ph.D. '60 in Experimental Physics from Cornell University. He is a member of Tau Beta Pi and Sigma Xi Monorary Societies and is a member of the American Physical Society.

CALENDAR

MAY 6.....SOLAR X-RAY AND ULTRA-VIOLET INVESTIGATIONS by Dr. Werner Neupert in the Interior Department Auditorium at 8:15 P.M. (The Interior Dept. is located on D. St. between 18th & 19th Sts.) Business Meeting After the lecture.

DINNER WITH THE SPEAKER at 6:15 P.M. For information--reservations, please call Mr. Anderson ---CL 6-6324.

5,12,19,26 TELESCOPE MAKING CLASS with Roy Walls at the Chevy Chase Community Center from 7:30-10:30 P.M.

12,26..... TELESCOPE MAKING CLASS with Grady Whitney, McLean H.S. McLean, Virginia 8:30 P.M.

12..... OBSERVING AT THE FIVE INCH on the grounds of the Naval Observatory with Larry White from 8:30 to 10:30 P.M.

3,10,17,24 TELESCOPE MAKING CLASS with Bill Isherwood at the Prince Georges County Board of Education Material Center, Bladensburg, Md.

13..... MD.-DC JUNIORS meeting at 2:00 P.M. in the Chevy Chase Library, 8005 Conn. Ave., Chevy Chase, Md. Speaker and topic to be announced.

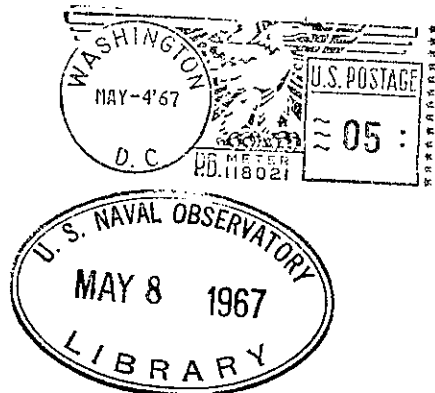
13..... PRINCE GEORGES' JUNIORS OBSERVE AT MORGANTOWN 8:00 P.M. (Call Sheila Duek for information 474-5617)

21..... PRINCE GEORGES' JUNIORS MEET AT Ted Noble's home in Crofton, Md.

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Library,
Naval Observatory
Washington 25, D.C.



PRINCE GEORGES' JUNIORS TREK TO PHILADELPHIA

On Saturday the 22nd of April, the Prince Georges' Juniors conducted a bus trip to Philadelphia which was attended by 80 members of the 6th grade from the Lafayette Elementary School and 5 from Taft Junior High School. The group was accompanied by Mrs. Noble and her mother and Mr. Melbourne who is the Science teacher at Taft Junior High.

The group attended the planetarium show at Fels and toured the Franklin Institute. They were also the beneficiaries of a special tour behind the scenes of the Planetarium and the 24" Cassegrain at the Observatory.

The Juniors expect to purchase a clock drive for their astro-camera with the proceeds of the trip.

APRIL LECTURE - VARIABLE STARS

Most stars including our sun go through all variable star stages sometime in their lifetimes. So stated our April speaker, Dr. K. C. Chou of Howard University. The variable phases of a star occur just after its formation as it approaches the main sequence of the H-R Diagram and in the final stages of life as it leaves the main sequence. Dr. Chou excluded eclipsing variables from his presentation and discussed only intrinsic variable stars, namely ones whose light variation results from internal mechanisms.

The broad category of pulsating stars contains many interesting types of intrinsic variables. One of the most useful of this kind of variable is the Cepheid. Because the intrinsic luminosities of these stars are directly proportional to their periods of variation, they are the yardsticks of the Universe for if one knows the true brightness of a star he can compute its distance from its apparent magnitude. While the periods of the Cepheids range from one day to one month, many variable stars, the so-called long-period variables, go through a cycle of light variation a year or more in duration.

Many of the light curves are quite regular whereas with the semiregular and irregular variables the brightness changes are erratic to a lesser or greater extent. Some light curves exhibit a short period variation superimposed on a longer period (RV Tauri stars). The amplitude of brightness of the long-period variables average about five magnitudes.

The most spectacular of the variable stars are the novae and supernovae. A supernova increases its brightness by 15 magnitudes in a few days and fades slowly over a period of months. Ordinary novae show about a 10-magnitude brightening. Some novae explode every 20 or 30 years. The brightening only amounts to about six magnitudes in these recurrent novae. Other nova-like stars such as SS Cygni brighten periodically about every month or two. There is an inverse relation between the amplitude of the light variation and the frequency of nova outbursts. Apparently the longer the star waits before exploding, the larger the bang it makes when it does go off.

Nebula variable stars fall into the third major division of variables. One example of these is the carbon star whose spectrum is rich in carbon lines. These stars emit clouds of carbon which shade the light from the star periodically. Thus, there is even a smoke pollution problem in space. The carbon star R Coronae Borealis shines as a sixth magnitude star most of the time but at irregular intervals of several years it dims six or seven magnitudes. Its light curve looks like an upside down recurrent nova light curve. The nebula stars in Orion change brightness as a result of going into and out of the extensive nebulae in this constellation.

Since there are simply not enough professional astronomers to keep track of the 15,000 variable stars listed in catalogues, amateurs can contribute greatly to this field of research by making observations of variables by visual, photographic, and photoelectric means. The A.A.V.S.O. collects amateur observations obtained visually and photoelectrically.

- Leith Holloway

OBSERVING PROGRAM AT WESTERN HIGH SCHOOL

Bob McCracken and Leith Holloway presented an observing program on the moon and planets this past month for the students at Western High School.

NCA AWARD WINNERS:

Mr. and Mrs. Ben Adelman, Mr. Bob McCracken, and Mrs. Margaret Noble visited the Prince Georges, Montgomery, and D. C. Fairs respectively and report the following awards:

SENIOR AWARD

Leo Lopez
12th Grade
Suitland Senior High School
"Deep Space Objects-Investigation"

COMMENDATION

Richard Clement
10th Grade
Suitland Junior High School
"Galilean Satellites of Jupiter"
"Calculated Periods of the Galilean Satellites"

SENIOR AWARD - Montgomery County

Alan Gottlieb
"Investigation of Lunar Photography"

ELECTIONS

The Nominating Committee has selected the following slate of officers for 1967-1968:

President ----- Sterling Anderson
Vice President ----- William Winkler
Secretary ----- Mrs. Nora Keel
Treasurer ----- Robert Bolster
Trustee ----- James Sharpe

Elections will be held at the June meeting. Nominations from the general membership for the above officers should be made to the nominating committee or one of the trustees before the June meeting. Nominating Committee consisted of Mr. Hoy Walls, Mrs. Janet Wright and Mr. Jerry Schnall.

CONVENTION

We need more NCA members to help with the convention, if you would like to help on any of the following committees, please call the Chairman.

Registration desk Bob Wright 384-6748
Transportation Leo Scott OL 4-5013
Banquet Thelma Cressy CO 5-6343
Hospitality .. Margaret Noble (301) 721-2225
Help with Exhibits Jim Krebs 582-8695
Exhibits (NCA) Hoy Walls OL 2-5395