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MD-DC JUNIORS

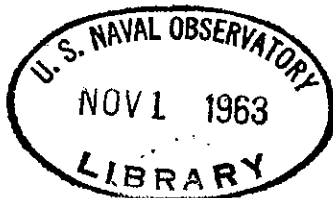
The Club is indebted to Mr. Robert Rhynsburger for his October 12th discussion of the 6" transit circle at the Naval Observatory, and explanation of his work there. The oldest continually used instrument of its kind, the 6" exemplifies one of the less glamorous phases of our field, that of positional astronomy.

Among our various other activities, the most prominent last month was photography. We have photos of both of last month's aurorae. Many test shots have been made using the 103-0 film donated by Mr. McCracken. As these are fairly granular, other types of film are being tried before begin.

Our booklet of eclipse observations is coming along very well under the editorship of Doug Richstone. We have twelve separate reports with two light curves (one for totality and one partial) and many photos. Tentatively, it should be ready for distribution at the December meeting.

Continuing our new lecture series this month will be Dr. Chou of the Naval Observatory, speaking on Astrophotography. All juniors (Virginia and Prince Georges', too) are welcome to this long awaited session to be held at the Cleveland Park Library, Connecticut Avenue and Macomb Street, NW, on November 9.

Norman Sperling
Md - DC Junior
Editor



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Library,
Naval Observatory
Washington 25, D.C.



★ STAR DUST



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CELESTIAL MOTIONS



Since all celestial observations are more or less dependent on motions, Dr. Harvey Banks will explain these motions in a popular lecture on November 2. Dr. Banks is Assistant to the Director of the Georgetown University Observatory and is professor of Astronomy at Georgetown University. Besides being an expert in the determination of orbits, he has measured lunar craters and has made valuable contributions to Astronomy through his work in spectroscopy. His study of the spectra of titanium has been a major contribution to spectroscopy. Dr. Banks has made Astronomy his life. He received his masters degree at Howard University with much emphasis

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CALENDAR FOR NOVEMBER

- 2 CELESTIAL MOTIONS by Dr. Harvey Banks. Dept. of Commerce Auditorium, 8:15 P.M. Business meeting follows.

DINNER WITH THE SPEAKER, all members invited. Occidental Restaurant, 6:30 P.M. For reservations, call Mrs. Noble, Lu2-6721, before noon on Saturday, November 2.
- 8 OBSERVATION AT THE FIVE INCH on the grounds of the U. S. Naval Observatory with Larry White. 8:00 to 10:00 P.M.
- 8 VIRGINIA JUNIORS meeting at the Westover Baptist Church, 1125 N. Patrick Henry Drive, Arlington, Va. 8:00 P.M.
- 9 MD-DC JUNIORS meeting at 2:00 P.M. at the Cleveland Park Branch Public Library, Connecticut Avenue at Macomb Street, NW. Dr. Chou will speak on Astrophotography. Call Leith Holloway at 362-1961 for details.
- 16 DISCUSSION GROUP 8:15 P.M. Dept. of Commerce, Room 1851. Topic: Planning Talks and Materials of NCA Members to use in giving Small Group Lectures. To be led by members of the Educational Committee.
- 22 VIRGINIA JUNIORS meeting at the Westover Baptist Church, 1125 N. Patrick Henry Drive, Arlington, Va. 8:00 P.M.
- 5, 12, TELESCOPE MAKING CLASS at the Chevy Chase Community Center with Hoy Walls, from 7:30 to 10:00 P.M.

6, 13, TELESCOPE MAKING CLASS in Bladensburg with William
20, 27 Isherwood, from 7:00 to 9:30 P.M.

TELESCOPE MAKING CLASS at McLean High High School in Mc-
Lean, Va. with Grady Whitney, from 8:00 to 10:00 P.M.

1, 8, 15, MAKSUTOV CLUB at the Chevy Chase Community Center
22, 29 with Hoy Walls, from 7:30 to 10:00 P.M.

Celestial Motions (continued from Page 1)
on mathematics and measurements with astronomy as a special
interest. He received his doctorate degree in Astronomy at
Georgetown University, where he has assisted Father Francis
Heyden in many and varied projects. Dr. Banks was a member
of the Georgetown Observatory Solar Eclipse Team last July
20th under the direction of Father Heyden.

This lecture will be a presentation of some modern con-
cepts of celestial motion necessary to the study of astronomy.
Dr. Banks has a special talent for making difficult concepts
quite understandable. A question and answer period is
planned to further clarify your thinking.

ASTRONOMY CLASS???

Are you interested in another class in Astronomy? The
Education Committee is working to set up an elementary Textbook
type class for some time this winter or early next spring.
Please contact Col. Booth, Chairman of the Educational Committee
(362-1761) and let him know what type of course you would like
to have.

ATTENTION PROSPECTIVE SPEAKERS

The NCA is continuously receiving calls from school science
clubs, PTA's, Civic Associations, Scouts, and many other groups
asking for some one who can speak to them about astronomy or who
would bring a telescope for them to see. Last year we compiled
a list of prospective speakers from the questionnaires you filled
out. However, in many cases, we did not know on what topics or
at what level you wished to speak. In order that we may better
servethe public in this important way, the November discussion
group has been set up to help you in preparing a talk and to ac-
quaint you with the slides and other materials available for use.
Please consider giving a little of your time to help others know
the wonders and pleasures of astronomy. This is an important way
to interest new people in NCA and you can have a rewarding exper-
ience giving someone their first telescopic view of the heavens.

Don't forget your dues must be paid by the November meeting if
you wish to have your name included in the new NCA Directory.

If you did not attend the NCA picnic-star party at Fort Hunt, you
missed a really good time. About twenty-five people did attend
and they enjoyed perfect weather for observing.

OCTOBER LECTURE --- ATMOSPHERES OF MARS

Our October speaker, Dr. Carl C. Kiess of Georgetown Univer-
sity, challenged many of our most cherished beliefs about the
planet Mars. Most of us do not believe as Lowell did that an ad-
vanced civilization built the Martian canals to carry the scarce
water from melting polar caps to cultivated land near the equator
of the planet but we did think that these polar caps were frozen
water and that the dark areas in low latitudes were some low form
of plant life. This is not so according to Dr. Kiess. He says
that the polar caps that we observe changing with the seasons are
solid nitrogen tetroxide (N_2O_4) and that the dark green areas
near the equator are deposits of other compounds of nitrogen
whose changes in color with temperature rise can explain all ob-
served variations in the appearance of these Martian markings.
The yellow clouds that often obscure the planet's surface fea-
tures, as during the 1956 opposition, are not dust raised from
the Martian deserts by the wind but are clouds of nitrogen diox-
ide (NO_2) in greater than normal concentration resulting from a
heat wave on Mars. The fact that after the clouds clear no de-
posit of dust covers the surface markings strengthens this
nitrogen dioxide theory.

An unsuccessful search for water and oxygen on Mars led to
the above conclusions. Around the time of Mars' opposition in
September 1956, Dr. Kiess headed an expedition to the observa-
tory on Mauna Loa mountain in Hawaii to obtain high dispersion
spectrographs of Mars. Careful analysis of these spectroscopic
observations revealed no evidence of either water vapor or oxy-
gen in the atmosphere of Mars. However, later re-examination of
these data showed marked similarities between the spectra of Mars
and laboratory spectra of the oxides of nitrogen.

The bulk of Mars' thin atmosphere may be nitric oxide or
molecular nitrogen. If this theory is correct, no life can exist
on Mars because some of the oxides of nitrogen even in small
quantities are poisonous to plants and animals. In view of these
conclusions, Dr. Kiess thinks that a space probe sent to Mars in
search of life would be a waste of money.

Leith Holloway

NEW MEMBERS

Regular

John M. Buckley; 3414 Prospect Ave., NW, Washington, 7, D.C.
FE 7-2699

Junior

Steven Paul Camp; 4815 Homer Ave., Suitland 23, Md. 736-1182
Roman G Merritt; 7400 Piney Branch Road, Takoma Park, Md.
588-8646

Ed Fenstermacher; 906 Winhall Way, Silver Spring, Md. 622-2622

John Mills; 4312 37th Road N., Arlington, Va. 536-6430
Byron Berman; 8601 Manchester Road #511, Silver Spring, Md.

JU 5-4866

David Schoen; 8605 Springdell Place, Chevy Chase 15, Md. 654-6320