

Send no payment, your letter will be sufficient, but identify yourself with the League and give a description of your party, as; men, women, married couples, boys and girls, with ages of the children. Rates will be \$3.00 per person in double rooms, \$5.00 for single occupancy. Rolloway beds in room will be available at \$1.50 per night. Include the dates of the nights you wish to reserve.

Additional information will be available at the NCA meeting or call Bob Wright.

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MD - DC JUNIORS

On Friday March 8, the NCJA had the pleasant experience of visiting the planetarium at the Montgomery Junior College. We would like to thank all who were involved in making the arrangements for this visit.

On the following afternoon, Saturday March 9, our group held its meeting at St. Paul's Lutheran Church. We continued our discussion of astro-physics. A discussion was had on how to get better attendance at our meetings and more members for the club. We also tried to figure a way to raise some money to donate to the church for the use of our meeting room.

Ernest Goodwin, Jr. Editor.

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JUNIOR CONVENTION

The Junior Convention was held on March 2nd in room 1851 at the Commerce Dept. The main item on the program was the Junior's barlow lens. It was purchased in 1961 and was held by the former chairman until he left for college. Then it was turned over to our present chairman, Guy Blair. A discussion followed as to how the barlow should be used. It was agreed upon that it could possibly be kept at the NCA five-inch at the Naval Observatory, and be checked out to any Junior who wanted to use it for a two week period. Until a final agreement is reached, the barlow is being kept by our chairman to use on a science fair project.

A committee was chosen with Leith Holloway as the chairman, to draw up By Laws for the NCA Juniors. The next Junior Convention was scheduled for May, at which time new officers will be elected.

Eleanor Matter, Junior Secretary.

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NEW MEMBERS

Regular

Mr. & Mrs. Gordon G. Knight  
2710 Woodley Place, N.W.  
Washington 8, D.C.  
332-7924

Junior  
Russ King  
3703 73rd Ave. S.E.  
Washington 28, D.C.

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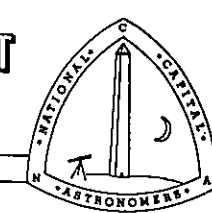
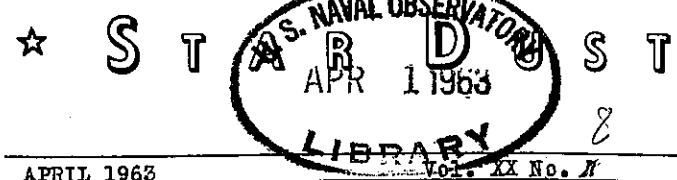
\* STAR DUST

Washington, D.C.



Published monthly except August by and for members of the NATIONAL CAPITAL ASTRONOMERS, INCORPORATED, a non-profit, public-service organization promoting interest and education in astronomy and the related sciences. President, Mrs. John Stolarik, RE-6 4321; Vice President, Ellis Marshall; Secretary, Morton Schiff; Treasurer, Roger Harvey. Trustees: Leo W. Scott, Sam C. Feild, Jr., G. Robert Wright, and James Krebs. Editor, Mrs. John Stolarik. Assistant Editor, Mrs. Ellis Marshall. Junior Division Editor, Ernest Goodwin, WO-6 4058. Astronomy Editor, Alexander L. White. Publicity, Mrs. William Lipscomb. Publicity Distribution, Morton Schiff. Photography and Production, Sam C. Feild, Jr. Deadline: Tenth of each month.

GBI. 879



APRIL 1963 Vol. XX No. 1

INTERNATIONAL QUIET SUN YEAR ACTIVITIES



The International Quiet Sun Year is complementary to the program of the International Geophysical Year, when solar activity was at a maximum. During the IQSY, which will take place January 1, 1964, through December 31, 1965, the solar activity will be at its minimum. The U. S. program will consist of synoptic observations in the fields of solar activity, geomagnetism, aurora and airglow, ionosphere, cosmic rays, and meteorology. Special efforts will be made to take advantage of the quiet solar conditions in studies of the sun itself, the interplanetary medium, solar-terrestrial relationships, and aeronomy.

Continued page 2

CALENDAR FOR APRIL

- 6 INTERNATIONAL QUIET SUN YEAR ACTIVITIES. Dr. Robert Fleischer Dept. of Commerce Auditorium 8:15 P.M. Business meeting follows.  
Dinner with the speaker, Occidental Restaurant 6:15 P.M. For reservations call RE 6-4321 before noon Saturday.
- 5, 19 VIRGINIA JUNIORS meeting at the Westover Baptist Church, room 234, 1125 N. Patrick Henry Drive, Arl., Va. 8:00 P.M.
- 13 MD-DC JUNIORS meeting at 2:00 P.M. at St. Paul's Lutheran Church, 4900 Connecticut Ave. at Everett St. (entrance at rear) Subject: Eclipses. (Leith Holloway 362-1961)
- 19 OBSERVING AT THE FIVE INCH with Larry White on the grounds of the U.S. Naval Observatory. 7:30 to 10:00 PM.
- 20 DISCUSSION GROUP at 8:15 P.M. in Room 1851 at the Dept. of Commerce.
- 5,12,19,26 MAKUTOV CLUB at the Chevy Chase Community Center with Hoy Walls from 7:30 to 10:00 PM.
- 3,10,17,24 TELESCOPE MAKING CLASS at the Chevy Chase Community Center with Hoy Walls from 7:30 to 10:00 PM.
- 3,10,17,24 TELESCOPE MAKING CLASS in Bladensburg from 7:00 to 9:00 PM with William Isherwood.

Many nations throughout the world will coordinate their scientific programs within the IQSY, as was done during the IGY. The international program is planned by a special committee of the International Council of Scientific Unions. The United States is represented on this committee by the United States Committee for the IQSY, a committee of the National Academy of Sciences-National Research Council. Dr. Martin A. Pomerantz of the Bartol Research Foundation is Chairman of the U.S. committee which has planned the United States program.

President John F. Kennedy recently designated the National Science Foundation as the responsible agency to correlate Federal activities in the IQSY. The Foundation then appointed Dr. Robert Fleischer as NSF Coordinator for IQSY. He represents the Foundation in correlating the activities of the various Federal agencies, and reviews proposals made to NSF for scientific research projects to be accomplished as part of the IQSY and funded by the Foundation.

Professor of Astronomy at Rensselaer Polytechnic Institute since 1958, Dr. Fleischer instituted the astronomy program at the Institute upon taking a position there in 1946. He has worked continuously since then at the Institute, with a leave of absence in 1951 to study binary stars at Swarthmore College. His research at RPI most recently has been in the field of solar radio astronomy and terrestrial effects of solar variations.

During the summer of 1960 he established a museum and program for public visitors at the National Radio Astronomy Observatory, Green Bank, West Virginia. He has also performed consulting work, and is the author of numerous scientific and general articles on astronomy.

Dr. Fleischer received his Ph.D. from Harvard in 1949, having previously earned an M.A. and B.S. there.

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#### PHILADELPHIA PLANETARIUM TRIP SATURDAY MAY 11th.

We now have 27 persons signed up for the trip to Philadelphia. 41 passengers are required to fill the bus. Be sure and sign up at the April NCA meeting if you want to make this trip. A one hour stop will be made at the Edmunds Scientific Company on the way to Philadelphia. We will spend about 5 hours in the Franklin Institute and Fels Planetarium.

Trip schedule will be  
 Leave Washington (front of Commerce Building) 7:30 A.M.  
 Arrive Franklin Institute 12:30 P.M.  
 (Bring your lunch or eat at the Institute)  
 Leave Franklin Institute (closing time) 5:00 P.M.  
 (We will stop enroute to eat)  
 Arrive Washington (commerce Building) 11:00 P.M.

Make your reservations with Miss Thelma Cressy or Bob Wright.

#### MARCH LECTURE \*\*\* SOLAR ECLIPSES

Our March speaker Rev. Francis J. Heyden, has traveled to many distant lands to observe eclipses of the sun, but he admits that the finest solar eclipse he has ever witnessed was the one he saw through a window in New York on a cold day in January 1925.

Whether a solar eclipse occurs depends on the distance of the moon from its orbital node, and the position of the earth and moon in their orbits with respect to perihelion and perigee determine if the umbra of the moon's shadow will reach the earth and cause a total eclipse. If the umbra does not touch the ground, an annular eclipse occurs. The interaction of the orbital motions of the earth and moon and the rotation of the earth determines the track of the total or annular phase. Preparations for eclipse expeditions require accurate ephemerides, but until recently a lack of understanding of ephemeris time by astronomers reduced the accuracy of eclipse predictions.

On many eclipse expeditions Fr. Heyden has timed the second and third contacts by photographing the sun's crescent at precisely determined times as it progressively narrows and by analyzing the rate of motion of the dark disk of the moon or the bright points of the crescent on the developed photographs. In practice this method falls short of theoretical expectations because of solar limb darkening and diffraction of light into the umbra which makes the points of the crescent hard to pinpoint. The speed of the crescent points near totality is underscored by the fact that the arc of the eclipsed sun decreases 90 degrees in the last 10 seconds of the partial phase. Lens aberrations in the camera, graininess of film, and camera vibration make accurate measurement of the photographs difficult. Furthermore, mountains on the moon's edge introduce errors into the least-squares computation of the precise center of the moon during the eclipse. Astronomers can also time solar eclipses by photoelectric photometry or by taking flash spectrographs on movie film. At the July 20th eclipse Dr. Heyden will set up equipment at a site near the center line in Maine to compare these three methods for timing eclipses. In addition he plans to photograph the eclipsed sun and corona with modern color film and to take infrared spectrographs of the thin crescent using a slit instead of the edge of the sun for greater resolution.

Fr. Heyden advises the amateur astronomer who has never previously seen a total eclipse of the sun to climb up into an apple tree in Maine where no one will bother him and observe something next July 20th he will probably never see again in his lifetime, but something he will remember the rest of his life. "It's good for the soul."

\*\*\*\*\* Leith Holloway \*\*\*\*\*

#### 1963 GENERAL CONVENTION OF THE ASTRONOMICAL LEAGUE

This year the General Convention will be held July 17, 18, 19 and 20 at the University of Maine in Orono, Maine, Orono is in the path of totality for the total solar eclipse on July 20th.

Registration fees will be \$2.50 for all persons over 16 years of age if paid before May 1, 1963; \$3.00 thereafter. Remit to the Amateur Telescope Makers of Boston; Hayden Planetarium, Science Park; Boston 14, Mass.

Rooms on campus will be available from July 15 through July 21. For reservations, write to Mr. W. C. Wells, Director of Residence and Dining Halls, University of Maine, Orono, Maine, after April 1. Continued on next page