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STAR DUST
National Capital Astronomers

D. C. AND MARYLAND JUNIORS REMAIN ACTIVE

On February 8 the D.C. and Maryland Juniors met with me at the Chevy Chase Community Center to discuss George Gamow's book "The Creation of the Universe." This is now available in a paperback edition (Mentor MD 214). On January 11 we had a lively discussion on Einstein's theory of relativity which 11 Juniors attended. I would like to point out that these discussion meetings at the Community Center are by no means the only activities of our group. For example, Lewis Acker is organizing an observing program for us. We plan to make both visual and photographic observations. Also, we recently visited the Georgetown Observatory and have had several observing sessions at members' homes. Many of our group own their own telescopes.

Most of these additional activities are planned only about a week in advance so there is not time to announce them in STAR DUST. Therefore, if you are a D. C. or Maryland Junior over 12 and wish to participate in these activities, come to our regular meetings on the second Saturday afternoon of each month and let us know that you are interested.

Among those who now regularly attend our meetings are Sam Friedman, Stephan Klingelhofer, Chris Walker, Lewis Acker, Mike Mattingly, Carol McTeer, and Roy Troxel. Carolyn Murphy, Pat Moretti, Ed Mohn, Ronald Blagg, Carol Riggs, Chris Caldwell, and Bob Milkey have also attended one or more of our meetings this program year. for more information please call me at any time.

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MARCH CALENDAR

MARCH 1 Lecture Series: "ASTRONOMICAL TECHNIQUE OF FORECASTING RADIO WEATHER," John H. Nelson, Propagation Analyst for RCA Communications, Inc., 8:15 P. M., Department of Commerce Auditorium, 15th and E Streets, N. W. The public is welcome.

MARCH 8 Maryland and D. C. Juniors over 12 meet with Leith Holloway at 2:00 P. M. at the Chevy Chase Community Center, 5601 Connecticut Avenue, N. W. Discussion Topic: "The Moon." Call Leith at LU 1-8334 for details.

MARCH 15 Discussion Group: "JUNIOR ACTIVITIES" led by Leith Holloway. 8:00 P.M. in Foyer of the Commerce Auditorium.

CONTINUING ACTIVITIES

EACH MONDAY NIGHT, the telescope making class meets with Hoy Walls at 7:30 P. M. at the Chevy Chase Community Center.

EACH WEDNESDAY NIGHT, the Virginia Juniors over 12 meet with Bob Brown at Falls Church High School for discussions of astronomy, optics, and telescope making, at 7:00 P. M.

JOHN H. NELSON, PROPAGATION ANALYST FOR RCA COMMUNICATIONS, INC., will speak Saturday, March 1 on the subject of "Astronomical Technique for Forecasting Radio Weather." Mr. Nelson, researcher of solar radio weather for 12 years, has assembled volumes of data and made several unique and important discoveries in this highly specialized field. The results of his efforts, according to RCA, enabled RCA technicians to improve substantially the reliability of

international radio communications.

Born in Gloucester, Massachusetts, December 10, 1903, Mr. Nelson came to work for RCA Communications, Inc., in 1923. His first job was that of Radio Operator and later held the position of Supervisor in RCA's Central Radio Office.

Interested in amateur astronomy since 1930, he was transferred to Solar Research in 1946 and charged with the project of developing a system of forecasting radio conditions based on a study of sunspots.

Provided with a 6-inch telescope and an observatory on the roof of RCA's Central Radio Terminal in downtown New York, Mr. Nelson combined his sunspot research with heliocentric planetary position research and since 1949 has developed a forecasting system shown by RCA statisticians to average close to 90% accuracy.

MOONWATCH AND MINITRACK TRIP, Saturday March 8.

We have all heard a lot about the Moonwatch program and many of us have seen the satellites. But only few have been out to see the Moonwatch stations, what the installation really is, how the telescopes are trained and used by the observers. We have seen pictures in papers and magazines of Bob Wright's station, the prototype for all the others around in the country, and we have now planned a trip down to the NCA official station at Bob DeHlar's house in Springfield, Virginia. While we are in the neighborhood, we get an opportunity to see the Army's Ft. Belvoir Moonwatch Station, which is under the supervision of Larry White. He has had it especially arranged that we be allowed into the restricted area where the station is located.

First, however, we are going to another part of Ft. Belvoir to see the Minitrack station where the satellites are being tracked by radio. Since we cannot be sure the satellite can be tracked just at the time we are there, it has been promised us that the operator will track a star for us so we can see how it is done.

SATELLITE OBSERVING

Attempts to observe Beta in the evening twilight were made during a four-day period, beginning December 20. Beta was seen by Bob Wright on the 22nd low in the southeast following a northeast course. As the two previous days were clear and the satellite was not observed, it may have been hidden in the earth's shadow until its appearance on the 22nd.

A later revolution was observed at E. P. A. on the 27th (5:27 P. M.) crossing the meridian at approximately 20° north. This passage was not looked for on successive days due to the nearness of the passage times to sunset.

A new series of evening observations began January 19. The westward procession of the orbit reversed its position relative to the sun's direction during the intervening period. This reversal placed the opposite half of the ellipse over North America in evening twilight, and the rocket's course became northwest to southeast. Beta was observed very low in the northeast on the 19th at 6:30 P. M. This passage was below the horizon on the next night. The next revolution on n / 1 was suitably placed for observation on the 20th and 21st, n / 2 for the 22nd and 23rd. By the 26th the satellite had been seen on at least five nights. Its brightness fluctuated considerably as it tumbled along maintain a maximum brightness of plus one for short periods. Passages by successive n numbers are further to the west.

---A. L. White, Astronomy Editor

DIRECTORY CORRECTIONS

Morton Schiff, Apartment 308
Michael Kolodney not Koloday
Stephan Klingelhofer not Stephens

Radar moon-echo experiments with a 220-foot parabola show that the echoes are reflected almost entirely from a relatively small area of the moon's surface.

LUNAR OCCULTATIONS

DATE	STAR	MAG.	AGE	PHASE	TIME (E.S.T.)	P
Feb. 9-10, 1958	Alpha Lib	2.9	21.5	D	5:02.5 AM	54°
Feb. 9-10, 1958	8 Lib	5.3	21.5	R	5:33.8 AM	356°
Feb. 9-10, 1958	Alpha Lib	2.9	21.5	R	5:50.7 AM	343°
Feb. 11-12, 1958	131 B. (Sco)	5.6	23.5	R	4:29.9 AM	267°
Feb. 24, 1958	Sigma Ari	5.5	6.3	D	6:17.5 PM	67°
Mar. 1-2, 1958	68 Gem	5.1	11.5	D	12:38.8 AM	149°
Mar. 3, 1958	Omega Leo m	5.5	13.5	D	11:24.1 PM	149°
Mar. 22, 1958	54 (Cet)	5.9	2.5	D	6:54.9 PM	142°
Mar. 25, 1958	68 Tau	4.2	5.7	D	10:08.5 PM	125°
Mar. 27, 1958	ED 718 1112	6.4	7.7	D	9:39.0 PM	162°
Mar. 30, 1958	60 Cnc	5.7	10.6	D	6:59.0 PM	95°

OBSERVATIONAL DATA FOR MARCH

Mercury is in superior conjunction with the sun on March 3. The planet reaches greatest eastern elongation on the 29th and may be seen at this time above the western horizon at sunset. This is the most favorable evening elongation of the year. Venus is a morning star and attains greatest brilliancy, magnitude -4.3, on the 4th. The planet rises about two hours before the sun. Mars is moving from Sagittarius into Capricornus and may be seen low in the southeast for a few hours before sunrise. Jupiter is near Spica and rises several hours before midnight. Saturn is in Ophiuchus and rises an hour or two after midnight.

---A. L. White, Astronomy Editor

We plan to leave the Commerce Building at 2:00 P. M., and for those who want to go directly, we expect to be at the Minitrack station at 3:00 P. M. To get there on your own, take U. S. 1 through Alexandria and on South to Ft. Belvoir. Turn in left on Ft. Belvoir Road as it shows on the map, go past De Witt Army Hospital and the Post School. Turn left at second turn after passing school. Go to Hurley Road at stop sign and turn right and continue to station. Afterwards we go back to U. S. 1 and south to Accotink where we turn right on 617 through Ft. Belvoir over Shirley Highway and up to an acute left turn onto 636 for 2½ miles, which takes us to the Dellar's house. The observers will show us how the station is used and let us try it out. From here we retract our steps again, back to 617 and go 7/10 mile south from the fork, to the entrance of the Engineer Proving Ground. To be able to get in here we have to have the names of all the people (or almost) listed at the gate, and therefore we would like to ask everyone who wants to go to stop at the foyer of the Commerce Auditorium at the March lecture and give his/her name for this purpose. If you can't come to the lecture, call L. White, JE 3-3261, Bob McCracken, OL 4-3321, or T. Neville, ED 9-6251, and let either of us know that you intend to come. This particular station is situated on very high ground, an advantage when trying to spot objects low on the horizon.

By this time it should be around 5-5:30 P. M. and we plan to go to the Hunter Motel on 617, just back across Shirley Highway again. It is said to be a very good eating place, and couldn't be more convenient. At dinner or supper we will discuss at our leisure what we have seen. We won't make reservation for any particular dinner, but let everyone order and take care of his/her own. Please, all who can, come down to Commerce Building and give other members a ride.

See you at Minitrack and Moonwatch. Please, everyone bring some good weather that day.

Many thanks to Larry White.

Moonwatch-ing-ly yours,
Tove Neville

REGIONAL CONVENTION SCHEDULED

The annual Middle East Regional Convention of the Astronomical League will be held at the West Virginia University at Morgantown on Saturday, April 19, in the Physics Building. Registration will open at 9:00 A. M.

The all-day convention will be capped off by a dinner in the evening and a star party or a planetarium show if the weather is cloudy. All NCA members who have attended one of these regionals will want to attend again, and those who have not, have a pleasure to look forward to in Morgantown. Let's plan on going up with an NCA group on April 18.

A cordial invitation is extended to those who wish to do so, to present papers. Contact Hoy Walls or me.

-- Dana K. Law, Regional Chairman

BOOK ANNOUNCEMENT - Jack Leonard announces the three following drug stores have agreed to stock "The Handbook of the Heavens" and "The Creation of the Universe:"

Henderson News Stand
14th Street and New York Avenue
Washington, D. C.

Bethesda Peoples' Drug Store
Wilson Avenue at old Georgetown Road
Bethesda, Maryland

Carrier Drug Center
Columbia Pike and South Glebe Road
Arlington, Virginia

FEBRUARY 1 was "movie night." TELESCOPIC OBSERVATIONS, VOLUME I, THE MOON produced by the Jacksonville Amateur Astronomers, was an instructional study of lunar features. A 9-minute film of the total lunar eclipse of November 18, 1956, was primarily a naked-eye study, combining a four-minute time-lapse of five hours of observations with discussion and study of an explanatory model. NEW FRONTIERS IN SPACE, described the work of Georgetown, Mount Wilson and Palomar Mountain Observatories, and the Naval Research Laboratory. Photographs of the earth taken from rockets were also shown.

If you must submit your material in longhand, please take care to make it legible, and please print names of places, people, constellations, and such.

3. Accuracy of copy. Check spellings before submitting copy, especially names. If you feel too rushed to do this for one piece of copy, think what it is like to check several pieces. If your material is scientific, please be sure it is scientifically accurate. Most of you of course are rigorously accurate in your scientific usage, but sometimes copy comes to STAR DUST so garbled in its nomenclature that, to be used, it not only has to be rewritten, but researched.

Perhaps the above will make clear why it is not possible to receive all the copy for STAR DUST and get it off to Bates the next day. If the contributors will accept the suggestions above, it will greatly expedite STAR DUST.

Remember that STAR DUST always welcomes material from any NCA'er.

-----Jewell Boling

ORBITAL ELEMENTS FOR B - Computed December 27, 1957

Time of nodal passage equals
358.136965 / 02070279655 N
-1.42032X10-6N -4.252X10-10N3

Right ascension of ascending node equals
338°3 -289 (t - 358)

Argument of perigee = 40.0 - 0°2 (t - 358)

Inclination = 65°0 (To equator)

Eccentricity = 0.08342

Semi major axis = 1.12810

t in year days

--- A. L. White, Astronomy Editor

HELP WANTED ! ! !

STAR DUST's editor apologizes for February without a STAR DUST. The flu and the weather combined to throw STAR DUST off schedule.

However the problem goes beyond these temporary conditions and now is perhaps the time to do something about it.

Every NCA'er has doubtless admired January STAR DUST and its "new look". This was the handiwork of our president, Bob McCracken, and we should all stand and give him three rounds. However, now that Bob has shown us how attractive STAR DUST can look with some more work (although at the same time costing us less money), the problem is, we must have people to do the work.

We need a PHOTOGRAPHY EDITOR. This should be someone who has a dark room. This job would involve photographing the dummy. This dummy would come to the Photography Editor completely made up. After photographing (an operation which would not take much time) STAR DUST would go to Bates for duplication. As Bob has processed the January issue he knows all the gimmicks involved and will be glad to go over the problems with anyone who will take on this job.

We need a LAY-OUT EDITOR. The duties of this job would be to type a final draft of STAR DUST, including the laying out of pictures, charts, etc. The Lay-Out Editor should have access to a good typewriter. Ideally, this would be an electric with proportional spacing. However, the job can be done on any good typewriter by counting and adding spaces to even the margins. The typing should be done by setting the typewriter on "stencil" and using a hard carbon paper in lieu of a ribbon. The Lay-Out Editor should be an A-1 typist as erasures would spoil the copy. Some months the job would require a couple of hours only. Other months a half day or more would be involved.

We badly need to have these two jobs filled. If you can do either one, won't you volunteer?

(continued on next page)

Meanwhile, it is necessary to take immediate steps to facilitate the publication of STAR DUST. The cooperation of all its contributors is needed in order that it get out on time and be a credit to NCA from the standpoint of appearance and content. Here are some of the things which have to be done to get STAR DUST to press: Edit all material for syntax and for technical and typographical accuracy. Cut copy when there is a shortage of space. Dig up additional copy when space needs to be filled. Make telephone calls to secure various types of needed information or to check on scheduled material. Make up a dummy. Proofread the dummy.

One of the most difficult problems involved is dealing with illegible copy or rewriting copy which comes in completely garbled in scientific meaning.

Here are some ways contributors can speed up the job of getting STAR DUST out:

1. Deadlines. From now on a monthly deadline will be announced in STAR DUST. For April STAR DUST the deadline will be March 20 except for short last-minute items. The deadline for these will be March 24. If the deadline catches up with you before you realize it, send the material special delivery. However, don't wait until the deadline if you can perhaps get the material off sooner. It is never too early to get in your copy.

If the copy is to be mailed address it to Jewell Boling, 1717 P Street, N. W., Washington 6, D. C. If you wish to call in short items, you can do so week days between 8:15 A.M. and 4:45 P.M. by calling EX 3-2420, ext:2868.

2. Procedure for submitting longer items. One of the most time-consuming aspects of STAR DUST is judging in advance if the copy is going to run over or run short. This necessitates either cutting or gathering additional copy. Therefore, it is requested that if possible you submit your material in typewritten form, single-spaced, in the same format as STAR DUST (i. e., 11" x 8 $\frac{1}{2}$ " cut in half). This will enable the editor to estimate at once how much space the copy will require.