

Detroit Astronomical Society Newsletter

42° 24' 37.7" N. Latitude

Crowell Recreation Center



83° 15' 24.5" W. Longitude

NOVEMBER / DECEMBER / 1989

FROM THE PRESIDENT

During the summer months DAS members made contact with other astronomy clubs while attending Starfest 89, Astrofest and Hidden Hollow at the Warren Rupp Observatory in Ashland, Ohio. Sometime in January some of the members will travel to the Thumb area to participate in an observing session with the Thumb area astronomers.

The educational seminar held at St. Marys College in Orchard Lake was successful, even though it was cloudy. The backup indoor program went very well thanks to members; Dr. Blanchard, Jim Fanzini, Gary Frey, Joe Hanks, Charley Watson and myself. The mini-seminar on astronomy lasted three hours and was well liked by the students.

I would like to bring to the attention of the membership that our annual swap shop will take place on November 17. There will be plenty of astronomical items for sale and the club will be selling a lot of Sky & Telescope and Astronomy Magazines at reduced prices.

California member Roland Kolter stopped by to reminisce with old friends, he seems to be doing quite well.

At the October general meeting, Fred Schebor from the University Lowbrow Astronomers gave a talk on his 10" f/5.6 split ring mount reflector, that was well liked by all and seems to have stimulated the thinking of some members to complete their telescope design with a split ring mount.

It seems comet watching is on the rise again. Brorsen-Metcalf, which I observed in Traverse City (August) has out performed Okazaki-Levy-Rudenko which is in an unfavorable observing location. Okazaki-Levy-Rudenko was observed in October and is extremely difficult to spot on the horizon and it is about a half magnitude fainter than predicted. But now comes Comet Helin-Roman-Alu sitting high in the sky moving towards Cygnus at a magnitude of 10.5, its faint but in a much better location for observing.

This years Christmas gathering takes place on December 15, and bring a dish to pass or contact Jack Brisbin at 981-4096 for ideas. As of this writing the Societies treasurer Ted Jasina has been very ill. We hope by the time this newsletter is mailed, Ted will be feeling much better. Clear Skies!

Jack Brisbin

CALENDAR OF EVENTS

- Nov 3 Board of Directors meeting 7:00 PM. General meeting 8:00 PM.
- Nov 10 No meeting, Crowell Center closed for Veterans Day.
- Nov 17 DAS annual Swap Shop, 8:00 PM until 9:45 PM. DAS meeting room.
- Nov 24 No meeting, Thanksgiving Day holiday.

- Dec 1 Board of Directors meeting 7:00 PM, Workshop activities 8:00 PM.
 Dec 8 General meeting, Lecture, election of officers 8:00 PM.
 Dec 15 Annual Christmas gathering, bring a dish to pass.
 Dec 22 No meeting, Christmas
 Dec 29 No meeting, Happy New Year!
 Jan 5 1990 Board of Directors meeting 7:00 PM.

MEMBERSHIP INTEREST

The ephemeris and sky map of Comet Helin-Roman-Alu are in the latter pages of the newsletter.

Comet Okazaki-Levy-Rudenko will reach a predicted magnitude of 4.2 but as Jack said, it appears to be a half magnitude weaker and difficult to observe low on the horizon. The Nov. issue of S & T pages 10-11 give complete details, sky maps and ephemeris. In the month of December, it will disappear below the horizon.

Those who are still interested in making their own telescopes should check out the books in the DAS library on telescope making. There are three volumes of "Amateur Telescope Making", edited by Albert G. Ingalls. Those volumes were published in 1980 by Scientific American and have a total of 1806 pages. A more advanced book on optical engineering is also in the library.

The Thumb Amateur Astronomers have been meeting on the second Saturday of the month but after January 1st, will meet on the third Saturday. I have no time for the meetings but Dr. Blanchard might have obtained that information recently. He can also give the societies address if anyone wishes that information.

Open House at the Peach Mountain Observatory of the University of Michigan has one scheduled date in November. This open house is supposed to be on a Saturday but the Nov. 26 scheduled date falls on a Sunday. I would advise anyone who would want to attend to check that out with Jack. The session will be cancelled if the sky is not clear at sunset. You are advised to bring warm clothing.

The Michigan State Telescope Open House dates are the 2nd weekends in November and December.

The DAS dues are as follows: Regular, \$32.50 (18 years and older) family, \$37.50 and junior \$22.50. Included is a subscription to Sky & Telescope magazine, the Reflector, a quarterly newsletter published by the Astronomical League and our bi-monthly newsletter. All are mailed to your home. Dues are to be mailed to:

Ted Jasina, 1211 Beaupre, Madison Heights, MI 48071.

OBSERVATIONAL HIGHLIGHTS

November

- 3rd Fri 8 UT Moon passes 4° south of Uranus
 21 UT Moon passes 4° south of Saturn
 22 UT Moon passes 4° south of Neptune
 Uranus is only 0.1' north of a brighter star of 5.1 magnitude.
 4th Sat 20 UT Moon passes 1.0° north of Vesta.
 5th Sun Taurid Meteors, broad maximum about Nov 3-13, slow, about 30/km/s. Bright, many fireballs. Radiant near the Pleades and Hyades
 8th Wed 2 UT Venus 3° south of Uranus at mag -4.4 and 5.8.

- 12th Sun 21 UT Saturn 0.5° south of Neptune at mags 0.6 and 8.
 - 15th Wed 19 UT Venus 3.9° south of Saturn at mags -4.5 and 0.6.
 - 16th Thu 14 UT Moon passes 3° north of Jupiter.
 - 17th Fri 21 UT (appx) Venus goes only 3' south of mag 2.1
♁ Sagittarii (Nunki).
- Leonid Meteors, swiftest of all meteors at 71 km/s. For 40° north, rises 11 PM. Many bright, some fireballs greenish or blueish. Radiant in the Sickel or head of Leo.
- 24th Fri 20 UT Asteroid Ceres (mag 7.5) is 30' south of a mag 6.1 star. See November S & T page 513.
 - 26th Sun Mars appears low in the morning twilight and is involved in a remarkable telescopic conjunction passing 2' south of 5th mag α₁ Librae but than a mere 14" south of mag 2.9 α₂ Librae. Next month Mars will have a much closer conjunction.

DECEMBER

- 2nd Sat 8 UT Moon passes 0.8° north of Venus.
- 5th Tue 0 UT Mars occultation of mag 6.3 star 26 Librae.
- 10th Sun 13 UT Mercury 2.0° south of Uranus at mags -0.6 and 5.8.
- 13th Wed Geminid Meteors, would be years best shower, but for full moonlight. Several degrees wide just west and north of Castor For 40° north radiant rises 6 PM, medium speed 34-37 km/s. Average mag about 2.7, some fireballs and bolides, about 65% white, 26% yellow, others blue, orange and yellow. Said to be brighter and more colorful before midnight.
- 20 UT Moon passes 3° north of Jupiter.
- 15th Fri 4 UT Mercury 3.1° south of Neptune at mags -0.6 and 8.
- 16th Sat 23 UT Mercury 2.5° south of Saturn at mags -0.6 and 0.6.
- 22nd Fri Ursid Meteors, radiant near Kokab (β Ursae Minoris). For 40° north latitude, radiant in sky all night. Medium speed, 33 km/s. Some fireballs, many faint meteors.
- 30th Sat 22 UT Mars 4.6° north of Antares at mags 1.6 and 1.0.

Some contrasting binary stars:

- λ Arietis Mag 4.9-7.7, moderate blue and strong yellow green.
- γ Trianguli Mag 5.2-6.6, strong orange yellow and light blue green.
- ε Pegasi Mag 3.9-7.9, strong orange and moderate blue.
- η Persei Mag 3.8-8.5, orange and deep blue.

To the west and slightly north of η Persei is the famous double cluster NGC 869 and NGC 884 composed of many supergiant stars.

A non-contrasting pair of binary stars is γ Arietis, mag 4.2-4.4, A B9 and A0 yellow stars that are 7.8" apart.

W Orionis is a fine red star to observe with a variable magnitude of 6.2-7.0. Its spectral class is C6 with a color index of 3.45. It is located between δ Orionis and π₆ Orionis. Much closer to π₆ Orionis.

The famous short period variable star Algol (β Persei), mag 2.1-3.4, in the constellation of Perseus is always an interesting object to observe. This class B8 star has a diameter 3 times larger than the sun, 4 times its mass and 100 times its luminosity.

The secondary is a K type with a diameter 3½ times larger than the sun but an approximate equal mass to the sun.

The eclipse of the primary comprises 10 hours of the 2 day 4 hour period.

A third companion detected spectroscopically is an F type with a diameter 1.7 times that of the sun and revolves around the binary pair in 1.86 years.

The minima periods for Algol are given on page 517 of the Nov. S & T.

The galaxy M33 in Triangulum has a larger angular diameter than the moon but difficult to observe because of its faint image. A good finder scope will show it best because a high magnification will render it invisible for lack of contrast. If this galaxy were entirely visible to the naked eye, the major axis would be more than twice the diameter of the moon. That would be quite a sight.

And the Great Galaxy in Andromeda, if that galaxy were entirely visible it would have a diameter $6\frac{1}{2}$ times the diameter of the moon at its major axis. Wouldn't that be a sight!

The constellation of Orion, except for the fact that it is low on the horizon, will soon be coming into prime time viewing during the early part of the night. And, of course, it has many interesting objects for viewing.

OTHER NEWS

The National Aeronautics and Space Administration will launch a new generation of satellites and unmanned spacecraft during the coming decade. Here are some of the more interesting missions.

| Year | Mission Name | Purpose |
|--------------|----------------------|--------------------------------------|
| October 1989 | Galileo | Study Jupiter in 1995 |
| March 1990 | Hubble Space Tel. | Study Stars and Galaxies |
| June 1990 | Space Life Sci. Lab | Study effect of weightlessness |
| August 1990 | Magellan | Study Venus |
| October 1990 | Ulysses | Study Sun in 1995 |
| January 1991 | Tethered Satel. Sys. | Study gas clouds, electrical fields. |
| July 1991 | Spacelab | Low gravity experiments. |

Any contributions from the members to the newsletter can be mailed to the editor.

Source for observational data:
Astronomical Calendar, 1989 by
Guy Ottewell, published at Furman
University. New Calendar due 1990

Mike Cyrek, Editor
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Detroit, MI 48212-1226
(313) 366-3595

GENERAL INFORMATION

The D.A.S. is a non-profit organization with membership open to any individual who is interested in astronomy. Guests are always welcome without charge or obligation. Our purpose is to encourage and promote the study of astronomy and related sciences.

The D.A.S. meets each Friday evening at the Crowell Recreation Center located at 16830 Lahser Road, Detroit, Michigan. The Center is 1/4-mile south of McNichols (Six Mile Road), on the east side of Lahser Road at the traffic signal light. This facility is a modern, well equipped building with ample off-street, lighted parking. It is operated by the City of Detroit Recreation Department and it is their finest facility serving this side of the city. Since we are their guests, it is important to be considerate in the use of the Crowell Recreation Center to insure our continued welcome.

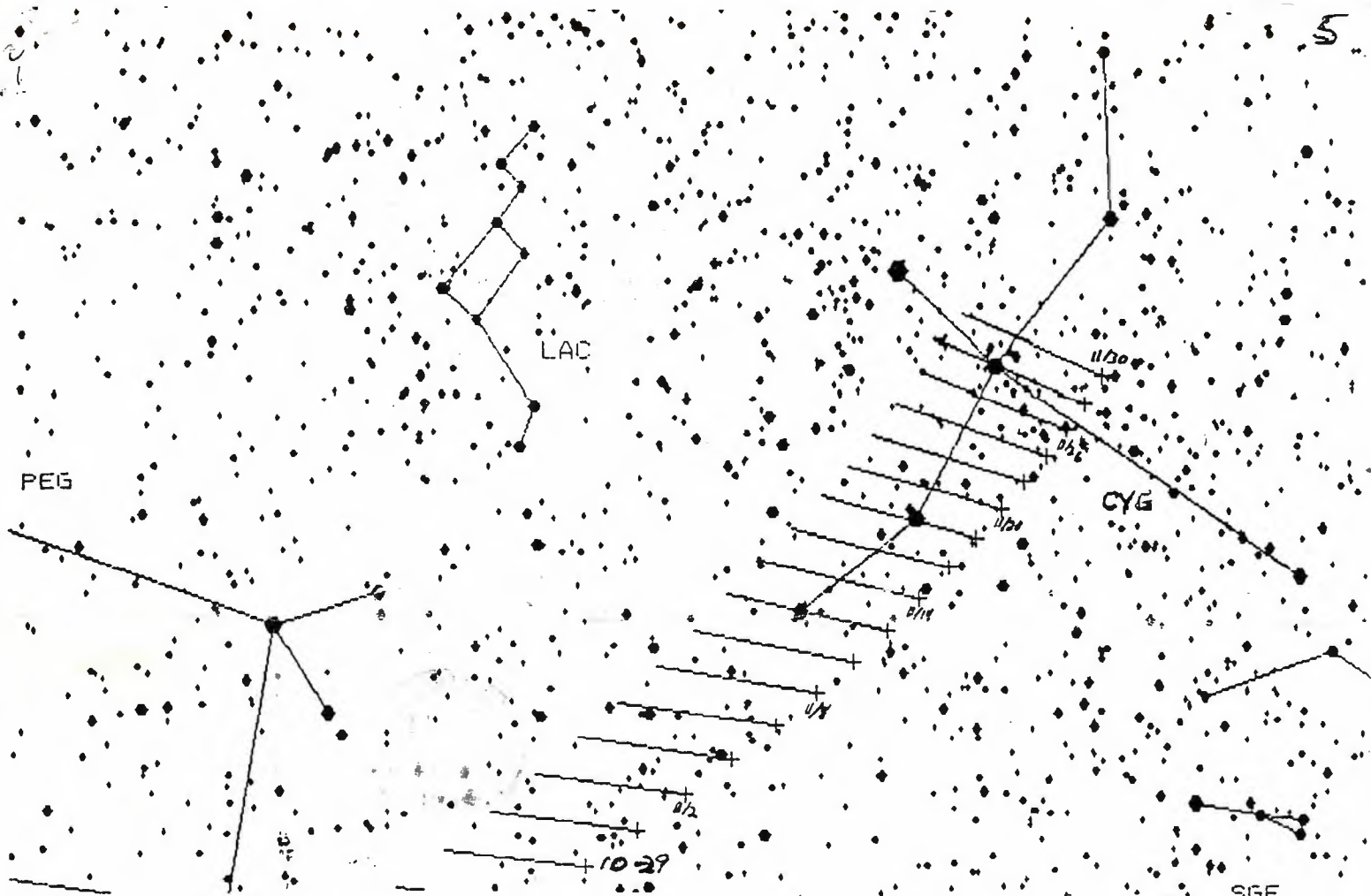
The meetings consist of talks, lectures, films, slides, mirror making, sharing and fellowship with Astronomy as our common denominator. Scheduled events and features will begin at 8:30 p.m. The officers and Board of Directors meet privately on the first Friday of each month at 7:00 p.m. in the mirror polishing room. The regular business meeting for the general membership is held on the second Friday of each month and starts promptly at 8:00 p.m. We ask that the last person be out of the building by 10:30 p.m. to accommodate the building custodian.

During the summer months of July and August the Regular and Board of Director Meetings are suspended. Formal programs are reduced and emphasis is placed on scheduled star parties.

THE data on last page courtesy of Stephen M. Smith.

Geocentric Ephemeris computed by Stephen M. Smith (CRAS) on 10-17-1989.
This comet was discovered by B. Halin, B. Roman, J. Alu, and R. Bamberry on
films taken with the Palomar 0.46-m Schmidt camera on October 1, 84.
Parabolic Orbital Elements are from IAU Circular No. 4875 (10/12/89).
Observation Arc: 1989 October 1 - 9.
Perihelion: December 15.82, 1989 at 1.050 AUs.
Angular distance traveled in 47 days is over 57°.
Actual brightness is subject to change WITHOUT notice!!

The COMET RAPID ANNOUNCEMENT SERVICE publishes bulletins about newly-discovered bright comets and an ephemeris periodical.
CRAS, P.O. Box 110282, Cleveland, OH 44111-0282 USA.



SKY MAP - COMET HELIN-ROMAN-ALU - EPHEMERIS

| 1989 | UT | RA 1950 | DEC. 41 | RA 2000 | DEC. 41 | DELTA | γ | ELONG | MV | DIST. | MIN/REV | DP |
|--------|-------|---------|---------|---------|---------|-------|----------|-------|-------|-------|---------|------|
| Nov 1 | 0h | 21 39.7 | +20 41 | 21 42.0 | +20 55 | 0.516 | 1.284 | 113ev | +10.6 | 1.44 | 1431.6 | |
| Nov 2 | 0h | 21 35.0 | +21 32 | 21 37.3 | +21 46 | 0.521 | 1.275 | 111ev | +10.6 | 1.39 | 1431.8 | -- |
| Nov 3 | 0h | 21 30.3 | +22 22 | 21 32.6 | +22 35 | 0.525 | 1.266 | 109ev | +10.6 | 1.37 | 1431.8 | -- |
| Nov 4 | 0h | 21 25.7 | +23 10 | 21 28.0 | +23 23 | 0.530 | 1.257 | 107ev | +10.6 | 1.33 | 1431.9 | 23 N |
| Nov 5 | 0h | 21 21.3 | +23 58 | 21 23.5 | +24 11 | 0.534 | 1.248 | 106ev | +10.6 | 1.29 | 1432.1 | 24 N |
| Nov 6 | 0h | 21 16.9 | +24 44 | 21 19.1 | +24 57 | 0.540 | 1.239 | 104ev | +10.6 | 1.26 | 1432.1 | 25 N |
| Nov 7 | 0h 1Q | 21 12.6 | +25 29 | 21 14.8 | +25 41 | 0.545 | 1.231 | 103ev | +10.6 | 1.23 | 1432.2 | 26 N |
| Nov 8 | 0h | 21 8.4 | +26 12 | 21 10.6 | +26 24 | 0.550 | 1.223 | 101ev | +10.6 | 1.19 | 1432.3 | 28 N |
| Nov 9 | 0h | 21 4.3 | +26 55 | 21 6.5 | +27 7 | 0.556 | 1.214 | 100ev | +10.6 | 1.16 | 1432.4 | 29 N |
| Nov 10 | 0h | 21 0.3 | +27 37 | 21 2.5 | +27 49 | 0.562 | 1.206 | 98ev | +10.6 | 1.13 | 1432.5 | 30 N |
| Nov 11 | 0h | 20 56.4 | +28 17 | 20 58.5 | +28 29 | 0.568 | 1.198 | 97ev | +10.6 | 1.09 | 1432.6 | 31 N |
| Nov 12 | 0h | 20 52.6 | +28 57 | 20 54.7 | +29 8 | 0.574 | 1.191 | 95ev | +10.6 | 1.07 | 1432.7 | 32 N |
| Nov 13 | 0h F | 20 48.9 | +29 35 | 20 51.0 | +29 46 | 0.580 | 1.183 | 94ev | +10.5 | 1.03 | 1432.8 | 33 N |
| Nov 14 | 0h | 20 45.3 | +30 12 | 20 47.4 | +30 23 | 0.586 | 1.176 | 93ev | +10.5 | 0.99 | 1432.9 | 34 N |
| Nov 15 | 0h | 20 41.7 | +30 49 | 20 43.8 | +31 0 | 0.593 | 1.168 | 92ev | +10.5 | 0.99 | 1432.9 | 35 N |
| Nov 16 | 0h | 20 38.3 | +31 25 | 20 40.3 | +31 36 | 0.599 | 1.161 | 91ev | +10.5 | 0.94 | 1433.1 | 36 N |
| Nov 17 | 0h | 20 34.9 | +32 0 | 20 36.9 | +32 11 | 0.605 | 1.154 | 89ev | +10.5 | 0.93 | 1433.1 | 37 N |
| Nov 18 | 0h | 20 31.6 | +32 34 | 20 33.6 | +32 44 | 0.612 | 1.148 | 88ev | +10.5 | 0.90 | 1433.2 | 38 N |
| Nov 19 | 0h | 20 28.3 | +33 7 | 20 30.3 | +33 17 | 0.618 | 1.141 | 87ev | +10.5 | 0.88 | 1433.2 | 40 N |
| Nov 20 | 0h 3Q | 20 25.2 | +33 39 | 20 27.2 | +33 49 | 0.625 | 1.135 | 86ev | +10.5 | 0.84 | 1433.4 | 41 N |
| Nov 21 | 0h | 20 22.0 | +34 11 | 20 23.9 | +34 21 | 0.632 | 1.129 | 85ev | +10.5 | 0.85 | 1433.3 | 42 N |
| Nov 22 | 0h | 20 19.0 | +34 42 | 20 20.9 | +34 52 | 0.638 | 1.123 | 84ev | +10.5 | 0.81 | 1433.5 | 43 N |
| Nov 23 | 0h | 20 16.0 | +35 12 | 20 17.9 | +35 21 | 0.645 | 1.117 | 84ev | +10.5 | 0.79 | 1433.5 | 44 N |
| Nov 24 | 0h | 20 13.1 | +35 42 | 20 15.0 | +35 51 | 0.651 | 1.112 | 83ev | +10.5 | 0.77 | 1433.6 | 45 N |
| Nov 25 | 0h | 20 10.3 | +36 11 | 20 12.2 | +36 20 | 0.656 | 1.106 | 82ev | +10.5 | 0.74 | 1433.7 | 46 N |
| Nov 26 | 0h | 20 7.4 | +36 40 | 20 9.3 | +36 49 | 0.664 | 1.101 | 81ev | +10.5 | 0.76 | 1433.6 | 48 N |
| Nov 27 | 0h | 20 4.7 | +37 8 | 20 6.5 | +37 17 | 0.670 | 1.096 | 80ev | +10.5 | 0.71 | 1433.8 | 49 N |
| Nov 28 | 0h N | 20 2.0 | +37 35 | 20 3.8 | +37 44 | 0.677 | 1.092 | 80ev | +10.5 | 0.70 | 1433.8 | 50 N |
| Nov 29 | 0h | 19 59.3 | +38 2 | 20 1.1 | +38 10 | 0.683 | 1.087 | 79ev | +10.5 | 0.70 | 1433.8 | 51 N |
| Nov 30 | 0h | 19 56.7 | +38 29 | 19 58.5 | +38 37 | 0.689 | 1.083 | 78ev | +10.5 | 0.68 | 1433.9 | 52 N |

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