

Detroit Astronomical Society Newsletter

42° 24' 37.7" N. Latitude

Crowell Recreation Center



83° 15' 24.5" W. Longitude

JULY / AUGUST / 1989

FROM THE PRESIDENT

There are some changes taking place based on members taking vacations to attend astronomical conferences and events. The DAS will meet only once per month during the months of July and August on Friday July 21 and Friday August 18. Call the Skywatchers Hotline (837-0130) for more information on club events.

Members have expressed interest in attending the Detroit Science Centers Space week program. Some of the events will be listed elsewhere in this issue. On Friday July 14 the Science Center will hook up a celestron 14 to their newly acquired interactive video system that features a 9 foot by 12 foot monitor screen and view the moon and other objects. This system also has satellite reception capabilities. This will take place about 9:00 PM, for more information call the science center at 577-8432, ask for Mr. John Zawiskie, Earth and Space Science Coordinator.

There is a group of members planning to view the Perseids Meteor Shower (August 11-12) from a private site owned by the Lakeshore Motel on M-25, north of Port Huron, overlooking Lake Huron. The motel sits on M-25, but has a private road that goes back about a quarter mile to the beach, a 1000 foot frontage (private) on Lake Huron. There is a cost to rent the rooms but this can be minimized by sharing a room.

Contact Jack Brisbin at 981-4096 for more information.

MEETING DATES:

FRIDAY JULY 21, GENERAL MEETING 8:00 PM
FRIDAY AUGUST 18, GENERAL MEETING 8:00 PM

SOME DATES TO REMEMBER:

JULY 14-20 DETROIT SCIENCE CENTER SPACE WEEK PROGRAM
JULY 19-23 ASTRONOMICAL LEAGUE CONFERENCE, SPOKANE, WASHINGTON
AUGUST 4-5 STELLAFANE, SPRINGFIELD, VERMONT
AUGUST 11-12 PERSEIDS METEOR SHOWER
AUGUST 25-26 STARFEST, RIVER BEND, ONTARIO, CANADA

Jack Brisbin

MEMBERSHIP INTEREST

The Brandon Middle School Astronomy Club project has come to a conclusion with a Starfest on June 7 that was unfortunately clouded out. However, the program indoors at the Brandon High School was well attended with the graduation of 22 students while the parents looked on. 15 of those students built telescopes.

The program started at 8:30 PM with an opening welcome by Dr. Joy Holler who was the participating representative from the Brandon School District. This was followed by an exam of 50 questions. Brandon Middle School Astronomy Club Charter Member certificates were then issued to the students plus Detroit Astronomical Society Merit Award certificates.

The DAS members involved in the program were: Dr. Blanchard, Jim Fanzini, Charlie Watson, Jack Brisbin, John Lines, Gary Frey, Mike Manyak and Joe Hanks.

The closing event was a slide show presentation of the program by Mr. Matt Gaberty with narration by Dr. Blanchard.

The DAS had 5 members attending the 19th annual Apollo Rendezvous and Telescope Fair in Dayton, Ohio. There was the usual display of telescopes, photographs, art work, flea market, slide show and speakers.

The Miami Valley Astronomical Society has the exclusive use and is the operator of the Dayton Museum of Natural History's 20" reflector which is guided by a computer. There also was a 10" reflector with proper filter setup for observing the sun. The image of the sun with its spots was large and clear.

Three of our members won door prizes. Jim Fanzini won a "glow in the dark" T-shirt, Charlie Watson won a \$25 certificate from Parks and yours truly won a Solar-Screen filter from Roger Tuthill. That is a very good win percentage considering that only one out of nine of our members won last year. The 2 other members attending were Mike Manyak and Dr. Blanchard.

Kim Dyer of the Warren Astronomical Society was also the winner of a door prize as was his young companion, William Dominguez. Their prizes were a Foucault focuser and 2 computer discs respectively. This is the 2nd year in a row that Kim Dyer has won.

The Twin-City Amateur Astronomers announce their 3rd annual Astronomy Rendezvous from August 25-27 at the Illinois State University in Bloomington-Normal, Illinois. An observing session will be held at Moraine View State Park. This, of course, runs concurrently with Starfest in Canada. Call Jack Brisbin for additional information about these events.

Public star parties are held at the Peach Mountain Observatory near Ann Arbor by the University Lowbrow Astronomers on July 29, Sep. 2, Sep. 30, Oct. 28 and Nov. 26. Star parties are cancelled if the sky is not clear at sunset. Members will bring their telescopes and the public is welcome to bring theirs.

July 14-15 is open house at the Michigan State University telescope. Contact Kim Dyer at 835-0993 for additional information.

The members of the Royal Astronomical Society of Canada, Windsor Centre invite the public to join them in observing a Total Lunar Eclipse on August 16 at 9:00 PM till 1:00 AM. The observing will be done at St. Clair College, South Windsor, at the Observatory. (Near the fountain)

Directions are: take Highway 3 directly off bridge also known as Huron Church Rd. Follow Highway 3 to a curve to the left where the name changes to Talbot Rd. St. Clair College is on left a short distance with its own road.

The launch of the Hubble Space Telescope has been delayed again. It seems an important Defense Dept. satellite had priority. The HST launch has been rescheduled for March or April in 1990. Some time for the shipment of the HST to Florida will be saved by flying it in a C-5A Galaxy transport plane.

Many of the nations adults suffer from cosmic illiteracy according to a study by the Massachusetts Institute of Technology and Northern Illinois University.

3

When asked whether the sun is "a planet, a star or something else," 25 percent said the sun is a planet, 15 percent said it was something else and 5 percent had no idea. Alan Lightman, a professor at MIT who coauthored the study, said 62 percent agreed with the theory that the universe contains "thousands of planets like our own on which life could have developed."
(UPI)

That latter result I would have to say is positive.

"The Practical Observer" is a new quarterly newsletter of practical information for the amateur astronomer. It will provide information by veteran observers on techniques and equipment plus other information of benefit to the amateur.

For a FREE debut issue with no obligation, mail your name and address to: The Practical Observer, 313 Raphael Ave., Middlesex, NJ 08846-1224. If you agree it's a valuable source, you can subscribe for \$10 per year (4 issues). Make check out to Gordon Bond to the above address.

OBSERVATION HIGHLIGHTS

I'd like to make a correction on the location of Barnards Star in the last newsletter. V566 Opiuchi should replace β Opiuchi. Sorry about that.

- July 2 (13:00 UT) Saturn at opposition, this is the middle of the best time to see it. It is on the meridian at midnight. Magnitude 0.1.
Neptune $\frac{1}{2}^\circ$ away at magnitude 7.9.
Uranus about 7.5° west of Saturn at magnitude 5.6 while Vesta is 2° north of Uranus at magnitude 5.6.
- July 3 (7:41) Saturn occults 28 Sagittarii, Magnitude 5.6. This is the brightest star occulted by Saturn in at least a century.
- July 11-12 Vesta goes through open cluster M21 in Sagittarius.
- July 12 (11 UT) Venus 0.5° north of Mars at magnitudes -3.9 and 1.8.
- July 23 (7 UT) Venus is 1.2° north of Regulus at magnitudes -3.9 and 1.4.
- July 2, for the early risers, Mercury is 0.6° south of Jupiter low on the NEE horizon about $\frac{1}{2}$ hr before sunrise.

In the constellation of Lyra near Vega is the Epsilon (ϵ) Lyrae 5th magnitude star known as the double-double making it a quadruplet.

Beta (β) Lyrae is also a double with the primary also a double adding up to 3 stars.

In the constellation of Vulpecula, there is the Dumb-bell Nebula (M27). It is the most conspicuous of all planetary nebula at 8th magnitude and about $\frac{1}{4}$ the diameter of the full moon. It is also 8 times larger than the Ring Nebula and greenish in color.

ϵ Bootes is a vivid double star of magnitudes 2.5 and 4.9 in the constellation of Bootes. Colors are pale orange and sea green. The spectral classes are K0 and A0. Coordinates are RA 14h 45m and the Dec. is $+27.1^\circ$.

- August 2 (16 UT) Mars 0.7° north of Regulus, magnitudes 1.8 and 1.4.
This is the closest planet-star conjunction of the year. About 5° off the horizon $\frac{1}{2}$ hours after sunset. Mercury nearby.
- August 5 (21 UT) Mercury 0.01° north of Mars at magnitudes -0.4 and 1.8.
Extremely close!
- August 12 Perseids Meteor Showers, Radiant 3h4m+58 $^\circ$ north edge of Perseus or even in Cassiopeia, swift, 60 km/s, average magnitude 2.27.
- August 16-17 The big event for the month is the total eclipse of the moon which will take place after sunset on August 16 as the moon comes up. The UT schedules for the eclipse are:
- August 17 (0:23 UT) Penumbral eclipse begins: first contact of moon with the earths shadow
(1:21 UT) Partial eclipse begins: first contact with earths umbra.

(2:20 UT) Total eclipse begins: moon becomes wholly inside earths umbra.
 (3:56 UT) Total eclipse ends: moon reaches farthest edge of earths umbra.
 (4:56 UT) Partial eclipse ends: last contact of moon with earths umbra.
 (5:53 UT) Penumbral eclipse ends: last contact of moon with earths shadow.

The EDT periods, of course, are 4 hours earlier than the UT.

August 18 Asteroid Vesta at magnitude 6.5 will be in conjunction with a star, that is slightly brighter, to appear as a double star.

Mid-August For those that may be vacationing at the southern shore of Lake Superior, Comet Brorsen-Metcalf could be seen about 10° off the horizon in the NNE sky. Coordinates are RA 5h 45' and Dec. +53° in the constellation of Auriga. It should be about 6.5 magnitude when it comes closest to the earth (0.4 AU). However, I have not read of any reports of it being sighted as yet.

In the constellation Cygnus, there is Omicron-1 (ο¹) Cygni, a binocular gem. The orange star at 3.8 magnitude forms a beautiful wide pairing with the turquoise 30 Cygni which is one magnitude fainter.

Then there is Beta (β) Cygni or Alberio which is composed of an amber and a blue green star duo, with magnitudes of 3.1 and 5.1. Another celebrated double in Cygnus is 61 Cygni, a pair of orange stars of 5th and 6th magnitudes. 61 Cygni was the first star to have its distance measured by the technique of parallax, so it has some historical significance.

In Hercules we have α Herculis which is orange and bluish green at magnitudes 3.5 and 5.4, spectral class M5 and G5. Coordinates are RA 17h 15m and Dec. +14.4°.

V Aquilae in the constellation Aquila is an intense fire red star at RA 19h 4.4m and Dec. -5° 41'. Its color index is 4.19 and is of the N7.7 spectral class. The magnitude is 7.4-8.0.

T Lyrae is another intense red star with a color index of 3.67. Spectral class is C6.5 and its magnitude is 8.3-8.9. The coordinates are RA 18h 32.3m and Dec. +37°.

SPACE NEWS

JULY 20 On this day in 1969 (20th anniversary) Armstrong and Aldrin first walked on the moon descending from the space ship Apollo 11 with Collins remaining in the ship.

Five subsequent landings were made for a total of 6.

August 25 Voyager 2 is due to reach Neptune.

We had 4 members renew their memberships. They are: Robert D. Loomis, Joseph Hanks, Arvid Lundell and John Lines.

I inadvertently made a glaring omission in the last 2 newsletters by leaving the treasurers name and address off the renewal information. So, here goes again. The annual dues are:

Regular, \$32.50 (18 years and older), family, \$37.50 and junior \$22.50. Included is a subscription to Sky & Telescope magazine and the Reflector, a quarterly newsletter published by the Astronomical League. Both are mailed to your home along with our newsletter.

Mail your dues to: Ted Jasina, 1211 Beaupre, Madison Heights, MI 48071. Members forward renewal card from S & T along with dues.

Sources of observational data: Astronomical Calendar 1989 by Guy Ottewell, Monthly Sky Guide by Ian Ridpath and Wil Tirion and Sky & Telescope Magazine

OTHER RELATED NEWS

The biggest astronomical event of the year in Michigan will have to be the American Astronomical Society meeting in Ann Arbor at the University of Michigan. It was the 174th meeting and took place from June 11 to June 15. The AAS Bulletin Volume 21, No. 2, 1989 contains all the abstracts of the various talks.

The entire program had a total of 44 sessions with each session covering a different subject in astronomy. Just about every subject one could think of was included. There were simultaneous talks going on in 3 different rooms at the Michigan League. Talks were also held at the Modern Languages Building (auditorium 3). In the ballroom of the Michigan League, there were displays that were replaced every day.

For the solar buffs, the bulletin also contained abstracts from the AAS Solar Physics Division meeting which took place at Laurel, Maryland from June 5-8, 1989.

The following news items were selected from the press releases at the meeting and the AAS Bulletin:

Nancy Houk, from the U of M is compiling a spectral catalogue of a quarter million stars for the Michigan Spectral Catalogue. By using a microscope, she gets an accurate spectral fingerprint of the stars which is then used to determine their temperature, luminosity, size, distance and chemical composition. This catalogue is vital for the theoretical astronomers who study the evolution of stars as well as the observational astronomers who may be interested in one particular star.

Gregory D. Bothun, an assistant professor of astronomy at the University of Michigan along with Chris Impey of the University of Arizona and David Malin of the Australian Astronomical Observatory are conducting a search for low-surface brightness galaxies. Techniques are being developed for this hunt to help determine a better approximation of the dark matter in the universe. One such gas cloud discovered called Malin I is about 20 times the size of the Milky Way.

William Forrest of the University of Rochester in New York and several colleagues have discovered nine brown dwarfs in the constellation of Taurus with the NASA Infrared Telescope Facility (IRTF) on Mauna Kea in Hawaii. These stars are about .005 to .02 the mass of the sun or from 5 to 20 Jupiter masses. This research will help to contribute to a better determination of the missing mass problem.

Another major space mission besides the Hubble Space Telescope is the Astro Mission. It will include 4 astronomers and 3 ultra-violet telescopes plus an x-ray telescope. These telescopes are a Hopkins UV, an UV imaging and a Wisconsin UV Photo-polarimeter. The other will be a Broad Band X-ray telescope. The mission is expected to be launched in March on the Space Ship Columbia.

Light pollution--The McDonald Observatory is the site with the least amount of light pollution followed by South Baldy, Mauna Kea and Mt. Graham.

Current unofficial estimates of the cost to NASA for delaying HST is put in the neighborhood of \$6.00 per second.

From an article entitled "Infinite Vistas", edited by James Cornell and John Carr:

During the millions of years of travel to earth, the light of a star is remarkably unaffected by its passage through the interstellar medium. Nonetheless, on this journey from the raging stellar surface, typically a distance of 300,000,000,000,000 kilometers--starlight acquires the properties that make it "twinkle". Depending on one point of view, it is either charming or horrible that this occurs as it passes through the Earth's atmosphere during the last 10 kilometers of the trip.

Techniques are being developed to overcome this problem.

Sources of above news: U of M Press Releases, U of R- NY Press Release, the AAS 174th meeting program and Bulletin and Kim Dyer, WAS.

NEW TELESCOPES

From a previous AAS Bulletin: The Columbus Project involves a plan to build a 2 x 8-meter binocular telescope on Mt. Graham in Arizona. This telescope will have a collecting area equivalent to an 11.3-meter telescope for light gathering power and an interferometric baseline of 22 meters for high resolution.

The Columbus Project is a collaboration between the University of Arizona, the University of Chicago, the Ohio State University and Italy represented by the Osservatorio Astrofisico di Arcetri.

The two 8-meter borosilicate honeycomb primaries will be mounted side-by-side on 14-meter centers in an alt-azimuth mounting. The honeycomb primary mirrors and a compact support structure help both to reduce the mass of the telescope and allow it to follow the changing thermal environment of a mountaintop observatory.

From the latest AAS Bulletin: The National Optical Astronomy Observatories has two 8-meter telescopes proposed for construction. One will be placed on Mauna Kea and the other on Cerro Pachon, Chile near Cerro Tololo. This will give the NOAO a view of both hemispheres with these larger telescopes as well.

Modern large telescope facilities consist of the telescope, usually with more than one well instrumented focal position, housed in a protective enclosure, operated from remote consoles through computers and preferably located on a dark dry site where most of the nights are clear. These conditions will apply to these telescopes.

The focal ratios will range from f/7 to f/35 to be used for various observations. The primaries focal ratio will be f/1.8. Beside the optical instrumentation, it will be equipped for infra-red as well.

The NOAO is operated by an Association of Universities for Research in Astronomy, Inc. and under contract with the National Science Foundation.

Sources of above news: The AAS Bulletins Volume 21, Nos. 1 & 2, 1989

Mike Cyrek, Editor
17149 Caldwell
Detroit, MI 48212-1226
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 16630 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.