

DETROIT ASTRONOMICAL SOCIETY

42° 24' 37.7" N. Latitude

Crowell Recreation Center



83° 15' 24.5" W. Longitude

NEWSLETTER SEPTEMBER / OCTOBER 1988

FROM THE PRESIDENT

If you are planning on going to Astrofest, you should have mailed in your reservation by now. There are about 10 members going already. The main speaker is David Levy.

Some of the best observing is in the fall and two dates, one on September 16 and one on October 14, have been reserved for Camp Wathana. The Manuka camp site has been reserved.

Presently, I have been working on the DAS to co-sponsor a Clyde Tombough lecture in the Detroit-Windsor area. Those members interested in getting involved in promoting the lecture should contact me at 981-4096. The lecture is tentatively scheduled for the first week in November.

Jack Brisbin

CALENDAR OF EVENTS

- | | |
|--------------|---|
| September 2 | Labor Day weekend. No meeting |
| September 9 | Workshop activities, 8:00 PM. Astrofest, Kankakee, IL. (Further info and map on page , Ed.) |
| September 16 | Camp Wathana observing session at Manuka campsite. |
| September 23 | Workshop activities, 8:00 PM. |
| September 30 | General meeting and lecture series. Lecturer to be announced. |
| October 7 | Board of directors, 7:00 PM. Workshop activities, 8:00 PM. |
| October 14 | Observing session at Camp Wathana, Manuka campsite. |
| October 21 | Workshop activities, 8:00 PM. |
| October 28 | Astronomical films, 8:15 PM. To be announced. |

The last two newsletters had the annual date inadvertently left off. If you are keeping a collection or maintaining a library, write the dates in after the bi-monthly date.

This telescope will be able to receive point sources at +28 magnitude which is 3.5 magnitudes farther than the Kitt Peak Observatorys capability. This adds up to receiving 5 times further. See illustration. S & T, Dec. 1986, p. 562 - S & T, Feb. 1987, p. 146.

The Keck Telescope is nearing completion. It will have a 36 segment 10 meter mirror with each segment individually adjusted to by precision equipment to make the mirror operate as though it was a single mirror. It is expected to be in operation by 1990 and will be at Mauna Kea, Hawaii. S & T, May 1987, p. 495.

European Southern Observatorys (ESO) Very Large Telescope (VLT) will consist of 4 independently mounted 8 meter reflectors. The individual telescopes will be able to operate in tandem to simulate a single mirror 16 meters in diameter making it the worlds largest telescope. It is expected to be completed in 1998 and will be located at LaSalla, Chile. S & T, May 1988, p. 471.

The US National New Technology Telescope (NNTT) is planned. All it needs is the funding to start the work. It will have 4-7.5 meter mirrors to simulate a single 15 meter mirror. S & T, July 1986, p. 23.

Other telescopes in the planning or proposed state are an American Italian 11 meter mirror, Japans 7.5 meter reflector (S & T, June 1988, p. 594), the German Large Telescope (DGT) with a segmented 12 meter mirror (S & T, July 1988, p. 12) and several 8 meter telescopes. With these new telescopes, astronomy will have great expectations and a very bright future.

We now have the ability to see galaxies of about +23 magnitude. The Andromeda galaxy has an absolute magnitude of -20.446. If we were to place the Andromeda at a distance of +23 magnitude, it would be at a distance of 16 billion light years which is at the same distance as the newly discovered galaxy. Ignoring the light extinction factor due to the dark matter in space, we could say that this new galaxy is just an ordinary galaxy.

M87 in Virgo has an absolute magnitude of -22.2. If we were to place that galaxy at a distance of +23 magnitude, it would be 36 billion light years distant. This would place it well outside the present limits of the big bang.

If we are able to see galaxies of +26.5 magnitude with the Hubble Telescope, that would extend our viewing distance five times further. We would then definately be seeing galaxies well outside the big bang universe.

your editor
Mike Cyrek
17149 Caldwell
Detroit, MI 48212

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.

MEMBERSHIP INTEREST

Mike Manyak, a while back, brought into one of our meetings a 6" Newtonian reflector with a solid oak Dobsonian mount which he had built. This telescope was donated to the St. Marys catholic elementary school in Cleveland, Ohio. This was a good gesture on his part. It certainly gets a lot of young children started and interested in astronomy. A lot of them will continue that interest in their future years to become either amateur or professional astronomers.

Certainly, there is a lot of objects up there to see and study in our never ending curiosity to try to understand how the universe works, or just simply to enjoy observing. Lets hope some others can follow his example.

Ralph Fourtney also had brought more recently to one of our meetings, his 8" telescope tube assembly with the mirror and its mounting bracket. This tube was constructed from several strips of wood in a polyganol manner. Lets hope he can finish it in time for the observation of Mars during its greatest magnitude which would be around October 1.

We had four membership renewels during the past two months. Joseph M. Hanks and Richard Thomas came in to one of the meetings to personally renew their membership. Two others renewals were William Miller and Nancy Waggoner.

I would like to remind all the members and their friends and any newcomers that the DAS annual dues are:

Regular, \$32.50 (18 years or 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.

Mail your dues to Ted Jasina, 1211 Beaupre, Madison Heights, MI 48071. Members forward renewal card from Sky & Telescope along with their dues.

Besides Astrofest, there are a couple of other astronomical gatherings. They are the Richland Astronomical Societys annual convention and star party at Hidden Hallow Camp near Mansfield, Ohio and the Niagfest sponsored and cosponsored by the Fort Wayne Astronomical Society, Michiana Atronomical Society and and the Warsaw Astronomical Society. Further information and maps are given in the latter pages.

DAS chases moon shadows. An occultation timing. On Saturday evening August 20, 1988, DAS members and friends traveled to the Lapeer farming community, of North Branch, to observe a grazing occultation of the 7.1 magnitude star HD 143112-Sco. by the southern limb of the moon.

The observing team was led by DAS director Gary Frey on its first organized grazing expedition. Gary Frey is a member of the International Occultation Timing Association (IOTA).

Ten members manned 7 observing sites along a 4 mile line. The top 3 sites did observe an occultation while the bottom 4 did not. They did observe some flickering though. This would indicate that they were properly located. Other than that, no additional information was available.

The next expedition is scheduled for October 20 to observe the occultation of 2C 3268-SAO 164974-magnitude 5.6.

Gary Frey has also submitted a paper to the US Naval Observatory on the Moonwatch campaign. This is a project to see how soon after the new moon one can see the newly emerging crescent at twilight. The record for naked eye visibility is 15.4 hours. With an optical aid, it is 14.9 hours. Gary freys times were 27 hrs-46 m-24 s and 27 hrs-34 m-50 s respectively. His optical aid was a pair of binoculars (20x80). See Sky and Telescope Ma zines July 1988 issue, page 34.

Arizona Database-release 1.0 computer disc-April 1988, release notes by Robert E. Erdman, is available on loan to the membership from Charles Watson or his son Todd. It is an astronomical database containing over 9,400 deep sky visual objects. It is intended to be used with a hard disc drive based IBM-PC/XT/AT compatible system. If there are any questions, contact Charlie Watson or his son Todd at 538-3369 EVENINGS.

OTHER NEWS

The observatory at Northwestern Michigan College in Garfield Township is in an uproar since a salvage yard is planning to build next to it. Night lighting and dust from such a yard could adversely effect the 'seeing' at the observatory. This type of pollution has already led to the decline of many observatories nationwide. Lets hope the observatory wins the mini-star war.

Another problem facing the astronomers is the increasing number of satellites crisscrossing overhead. A couple of ludicrous examples are:

A group of artists in France want to have a kite-like object the size of a football field and place it in orbit as an art object.

The other is a Florida company wanting to place in orbit the cremated remains of 10,300 people thus using space as a sort of mausoleum in the sky.

Another project that was already cancelled was a plan to create an orbiting salute to the 100th birthday of the Eiffel Tower composed of 100 lights to remind the people of a century of the towers existence.

An added concern is the possible damage that could result from some of the space debris to the Hubble Space Telescope which would effect its performance.

According to a five member team in research at the Harvard-Smithsonian Center for Astrophysics, observations were made of faint but distinct signs of a star being pulled off course by something big and dark, which could be a large planetary body or possibly a brown dwarf star. This discovery encourages speculation that there are many other planets around stars. Some, of course, could have suitable habitat for life.

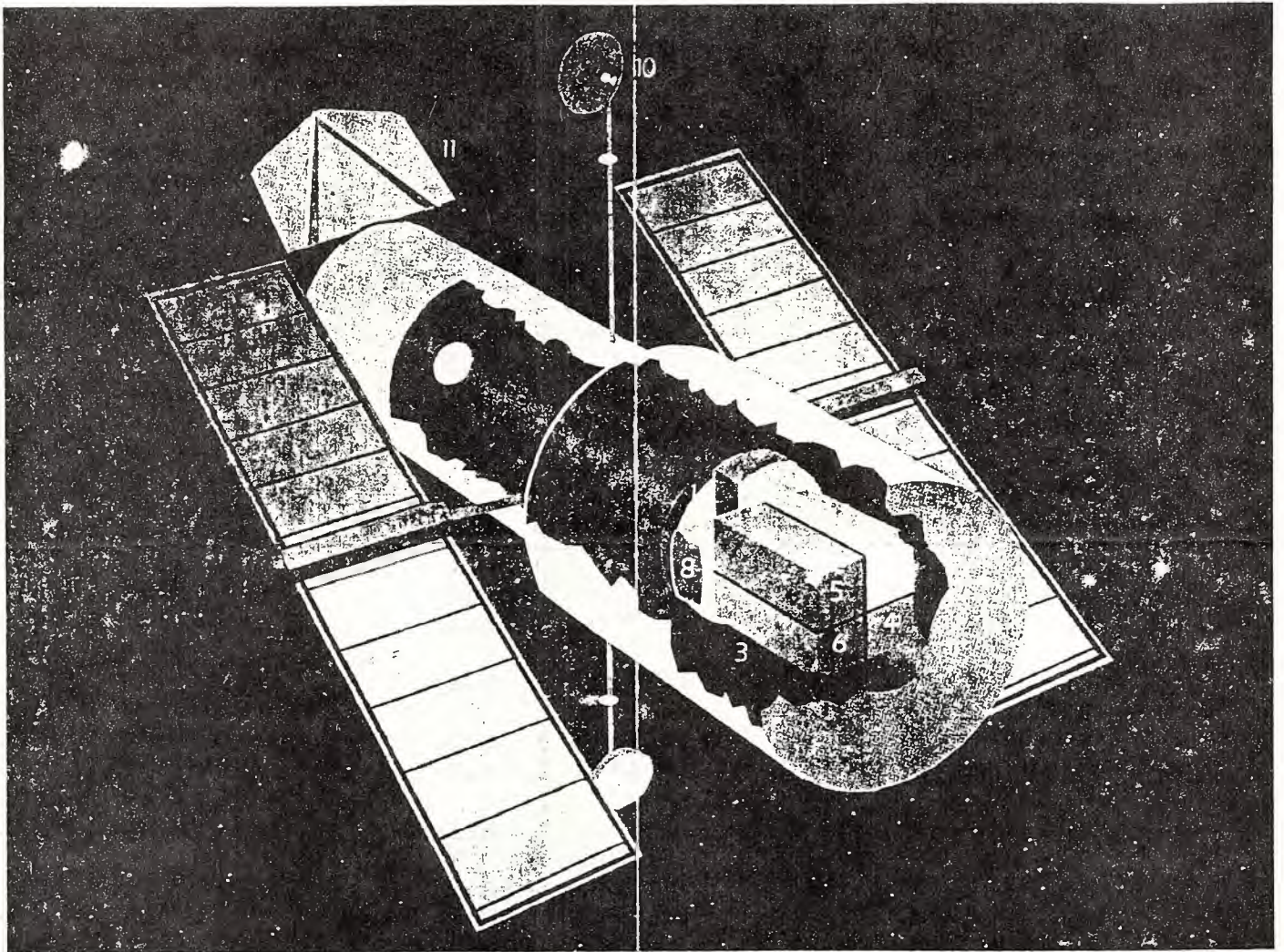
At the Space Telescope Science Institute in Baltimore, astronomers have discovered the most distant galaxy ever found. A mind-boggling 15 billion light years away from earth. Extremely distant galaxies are of great interest to astronomers, because light from them takes billions of years to reach earth. Remote galaxies can be used to provide data about the early stages of the universe.

NEW TELESCOPES

With the above discovery, I think a review of the future telescopes is appropriate. (Sky & Telescope, July 1986, p.23 - S & T, May 1987, p. 495 - S & T, August 1988, p. 116)

If we now have the ability of seeing galaxies at 15 billion light years into space, then these new telescopes which will be much larger and have greater light gathering capability, will be able to reach out from 2 to 5 times further. Does that mean that we will be able to see galaxies at 30 to 75 billion light years distant? If we do, then we will have to drastically alter the age of the universe accordingly and the big bang concept will be discredited which I eventually expect it to be.

The Hubble Space Telescope is already completed and awaiting a launch into space as soon as the problems with the space shuttle are eliminated.



- (1) 94.5-inch PRIMARY MIRROR
collects starlight and directs it to a focus.
- (2) SECONDARY MIRROR
reflects light from the primary mirror to the instruments.
- (3) WIDE FIELD & PLANETARY CAMERA
produces detailed pictures of a variety of astronomical objects from planets to entire galaxies.
- (4) FAINT OBJECT CAMERA
provides high resolution images of extremely faint objects and collects data on their chemical composition.
- (5) HIGH RESOLUTION SPECTROGRAPH
makes extremely precise measurements of the composition, temperature, and motion of bright stellar objects.
- (6) FAINT OBJECT SPECTROGRAPH
examines the composition and motion of nebulae, galaxies, and other dim or remote objects.
- (7) HIGH SPEED PHOTOMETER
measures rapid fluctuations in the brightness of stars and other celestial objects.
- (8) FINE GUIDANCE SENSORS
control telescope pointing and make precise measurements of star positions.
- (9) SOLAR ARRAYS
provide electrical power.
- (10) RADIO ANTENNAS
receive commands from Earth and transmit data.
- (11) APERTURE DOOR
protects instruments against excessive light objects.

HUBBLE SPACE TELESCOPE FACTS AND FIGURES

Mirror diameter	94.5 inches (2.4 meters)	Maximum brightness of Space Telescope in orbit	About magnitude -3 (brighter than Jupiter and thus the second brightest starlike object in the sky)
Length of spacecraft	43.5 feet (13.3 meters)	Means of launch and service	NASA Space Shuttle
Diameter of spacecraft	14.0 feet (4.3 meters) with solar panels stowed 40.0 feet (12.0 meters) with solar panels deployed	Expected life of instrument	15 years. Space Shuttle will boost Space Telescope back to higher orbit as required. The instruments and many spacecraft support systems are modular and can be
Weight	24,000 pounds (11,000 kilograms)		
Orbital altitude	368 statute miles (593 kilometers)		
Orbital inclination	28.5 degrees		

THE MOONS OF JUPITER

SEPTEMBER 1988

E.D.T.

1	11:57pm	3	Oc.R	14	12:52am	1	Tr.I	23	12:50am	2	Ec.R
4	5:58am	1	Ec.D		1:31am	2	Sh.I		1:02am	2	Oc.D
5	3:13am	1	Sh.I		1:43am	1	Sh.E		3:16am	2	Oc.R
	4:08am	2	Ec.D		3:00am	1	Tr.E		4:21am	3	Ec.D
	4:33am	1	Tr.I		3:46am	2	Sh.E		6:29am	3	Ec.R
	5:21am	1	Sh.E		4:12am	2	Tr.I	24	10:09pm	2	Tr.E
	6:25am	2	Ec.R		6:25am	2	Tr.E	26	11:23pm	3	Tr.I
	6:25am	3	Sh.I	15	12:18am	1	Oc.R	27	1:12am	3	Tr.E
	6:40am	1	Tr.E		10:35pm	2	Oc.D		6:09am	1	Ec.D
	6:51am	2	Oc.D	16	12:21am	3	Ec.D	28	3:21am	1	Sh.I
6	12:26am	1	Ec.D		12:49am	2	Oc.R		4:32am	1	Tr.I
	3:58am	1	Oc.R		2:29am	3	Ec.R		5:30am	1	Sh.E
	11:01pm	1	Tr.I		4:47am	3	Oc.D		6:39am	1	Tr.E
	11:49pm	1	Sh.E		7:39am	3	Oc.R		6:44am	2	Sh.I
7	1:08am	1	Tr.E	19	7:00am	1	Sh.I	29	12:37am	1	Ec.D
	1:09am	2	Sh.E	20	4:14am	1	Ec.D		3:58am	1	Oc.R
	1:40am	2	Tr.I		7:41am	1	Oc.R		9:50pm	1	Sh.I
	3:53am	2	Tr.E	21	1:28am	1	Sh.I		10:59pm	1	Tr.I
8	10:29pm	3	Ec.R		2:42am	1	Tr.I		11:58pm	1	Sh.E
9	1:57am	3	Oc.R		3:36am	1	Sh.E	30	1:06am	1	Tr.E
	3:50am	3	Oc.R		4:07am	2	Sh.I		1:07am	2	Ec.D
12	5:06am	1	Sh.I		4:50am	1	Tr.E		3:24am	2	Ec.R
	6:24am	1	Tr.I		6:23am	2	Sh.E		3:27am	2	Oc.D
	6:42am	2	Ec.D		6:42am	2	Tr.I		5:40am	2	Oc.R
	7:14am	1	Sh.E		10:43pm	1	Ec.D		10:25pm	1	Oc.R
13	2:20am	1	Ec.D	22	2:09am	1	Oc.R				
	5:50am	1	Oc.R		10:05pm	1	Sh.E				
	11:35pm	1	Sh.I		10:33pm	2	Ec.D				
					11:17pm	1	Tr.E				

EVENTS OF CALLISTO

Submitted by Marty Kunz.

SEPT. 10...2:00am-7:00am

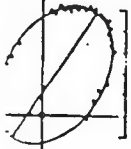
SEPT. 25...7:00pm-12:00

Start observing about 10 minutes before stated times

Object number: 1=IO
2=EUROPA
3=GANYMEDE
4=CALLISTO

First column is date of month.
Third column is object number.
Fourth column is event at bottom

Event: Tr.=Transit-Moon passes in front of Jupiter
Oc.=Occultation-Moon passes behind Jupiter.
Sh.=Shadow of moon on Jupiter.
Ec.=Eclipse-Moon is in the shadow of Jupiter.
I=Ingress- Transit or shadow event begins.
E=Egress-Transit or shadow event ends.
D=Disappearance-Beginning of eclipse or occultation.
R=Reappearance-End of eclipse or occultation.



FOUNDED 1852
THE WORLD'S OLDEST AMATEUR ASTRONOMICAL SOCIETY

PRESENTS

THE ASTROFEST

1988

Friday, September 9, 1988 - Sunday, September 11, 1988.

PRELIMINARY ASTROFEST PROGRAM

The schedule listed below is subject to change.

Friday, Sept. 9

- 6:00 PM: Registration desk opens, in the Dining Hall.
- 7:00 PM: Impromptu slide programs and activities begin in the Dining Hall.
- 9:00 PM: All night observing session, weather permitting - lights out at 9:00.
- No food will be provided on site this evening.

Saturday, Sept. 10

- 8:00 AM: Registration desk opens, in the Lodge.
- 9:00 AM: Coffee and donuts will be available in the Dining Hall for all registrants.
- 9:45 AM: Opening announcements in Dining Hall.
- 10:00 AM: Morning talks and presentations.
- ALL DAY: Amateur Telescope Display, Astrophoto Display, Astro-Swap Flea Market, and Commercial Exhibits.
- 12:00 NOON: Lunch is served in the Dining Hall.
- 2:00 PM: Afternoon talks, presentations, and Telescope judging.
- 5:00 PM: Dinner is served in the Dining Hall.
- AFTER MEAL: Featured speaker, David H. Levy, discusses: "Some Thoughts on Hunting for Comets".
- 8:00 PM: Announcement of Telescope Making Awards.
- Announcement of Astrophoto Awards.
- Drawing for Door Prizes.
- The CAS Observatory Committee will hold a drawing for a Video CamCorder - proceeds go to the observatory fund.
- All night observing, weather permitting.

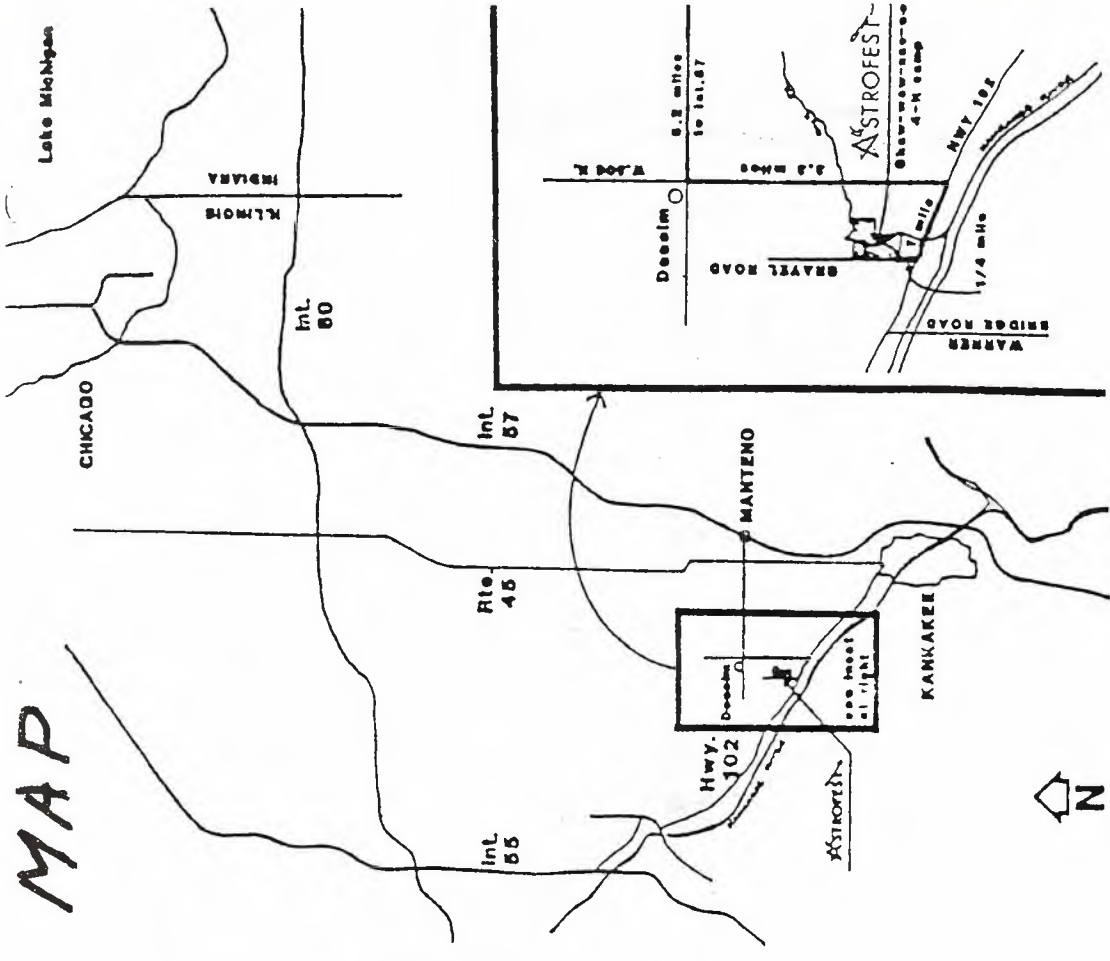
Sunday, Sept. 11

- No organized activities. All visitors must leave by 12 NOON.

AMATEUR TELESCOPE DISPLAY

Amateur telescopes will be on display all day Saturday, with informal observing on Friday and Saturday nights. Telescopes entered for the judging (which is non-competitive) must be displayed by 1:00 PM on Saturday. Entry forms will be available at the registration desk.

MAP

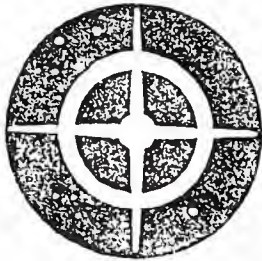


ASTROPHOTO CONTEST

This year we will again have an astrophoto contest. The competition is for prints only - no slides. Only one photograph may be entered in each of the categories: "Deep Sky" and "Solar System". All entries must be submitted for display by 11:00 AM on Saturday. Judging will be by paper ballot among the registrants of Astrofest 1988. Entry forms will be available at the registration desk. Ballots will be distributed with the registration packet.

ASTRO-SWAP FLEA MARKET

There will be a flea market for telescope and astronomy-related materials and books on Saturday (one day only). Second hand, home made, or factory seconds only! Companies wishing to display new merchandise should write for exhibit information. Tables will not be provided, so bring your own table (or a blanket) to display your wares.



allow amateur astronomers,

On Friday, October 7 and Saturday, October 8 of 1988 the Northern Indiana Astronomical Group (NIAG) will be sponsoring the second annual NIAG Fest convention. It will be held in Fort Wayne, Indiana at St. Francis College.

The convention will feature paper sessions, a guest speaker, observing sessions and a planetarium show. There will also be all day exhibits of telescopes, astrophotos, computers, commercial vendors and a flea market.

The guest speaker will be Dr. Dwight Beery from Manchester College. Dr. Beery teaches descriptive astronomy and is the director of the Morris Observatory which houses a 10" Cave Astrolia in an Ash Dome. He also chairs the physics department at Manchester College.

Friday, October 7
 6:00 PM Registration
 7:00 PM Planetarium Show
 8:00 PM Observing at Fox Island*

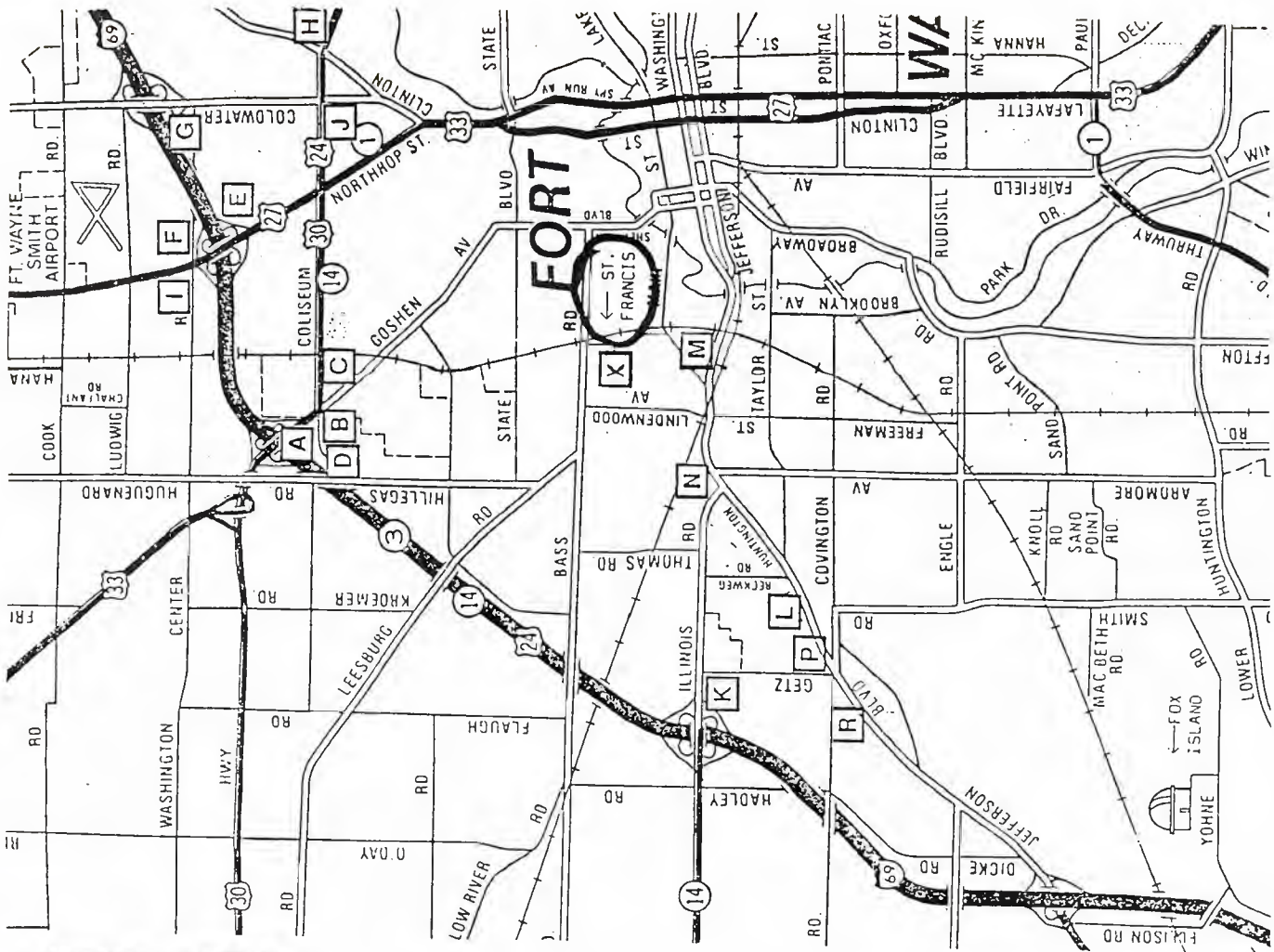
Saturday, October 8
 8:30 AM Registration & Hospitality
 9:00 AM Opening Ceremonies
 9:30 AM Paper Sessions
 12:00 PM Lunch
 1:30 PM Paper Sessions
 3:00 PM Guest Speaker
 4:00 PM Planetarium Show
 5:00 PM Closing & Door prizes
 5:30 PM Supper
 7:00 PM Observing at Fox Island*

* If cloudy there will be an informal slide session in the lecture hall at St. Francis.

We invite you to attend and help make this NIAG Fest as successful as the first one. You will find a registration form enclosed, please send it in by September 24, 1988.

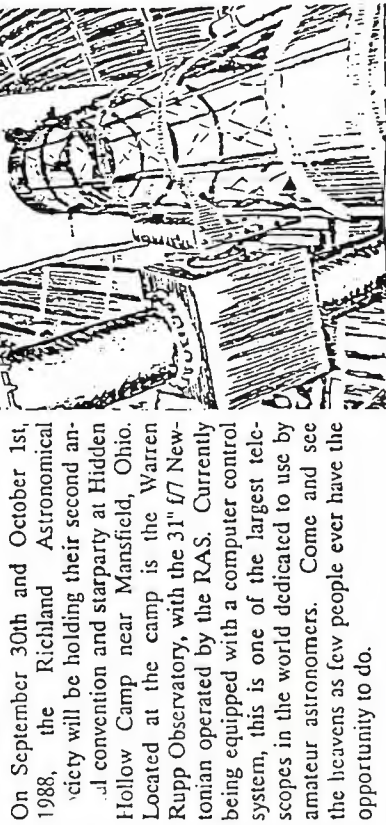
The sponsors for NIAG Fest are the Fort Wayne Astronomical Society which was founded in 1959. The club meets on the third Tuesday of each month at Fox Island Nature Preserve. They also own and operate an observatory at Fox Island which houses a 12 1/2" member-built telescope. The Michiana Astronomical Society formerly known as the South Bend or Saint Joseph Astronomical Society was founded in 1974. The club meetings are held on the third Monday of the month, except during the summer, at the Mishawaka-Penn Public Library. The Warsaw Astronomical Society was founded in October, 1980. The club meets on the second Friday of each month in the lower level of the Warsaw Community Library.

CLEAR NIGHTS AND DARK SKIES!



HIDDEN HOLLOW '88

SPEND A WEEKEND FACE-TO-FACE WITH THE WAR GOD



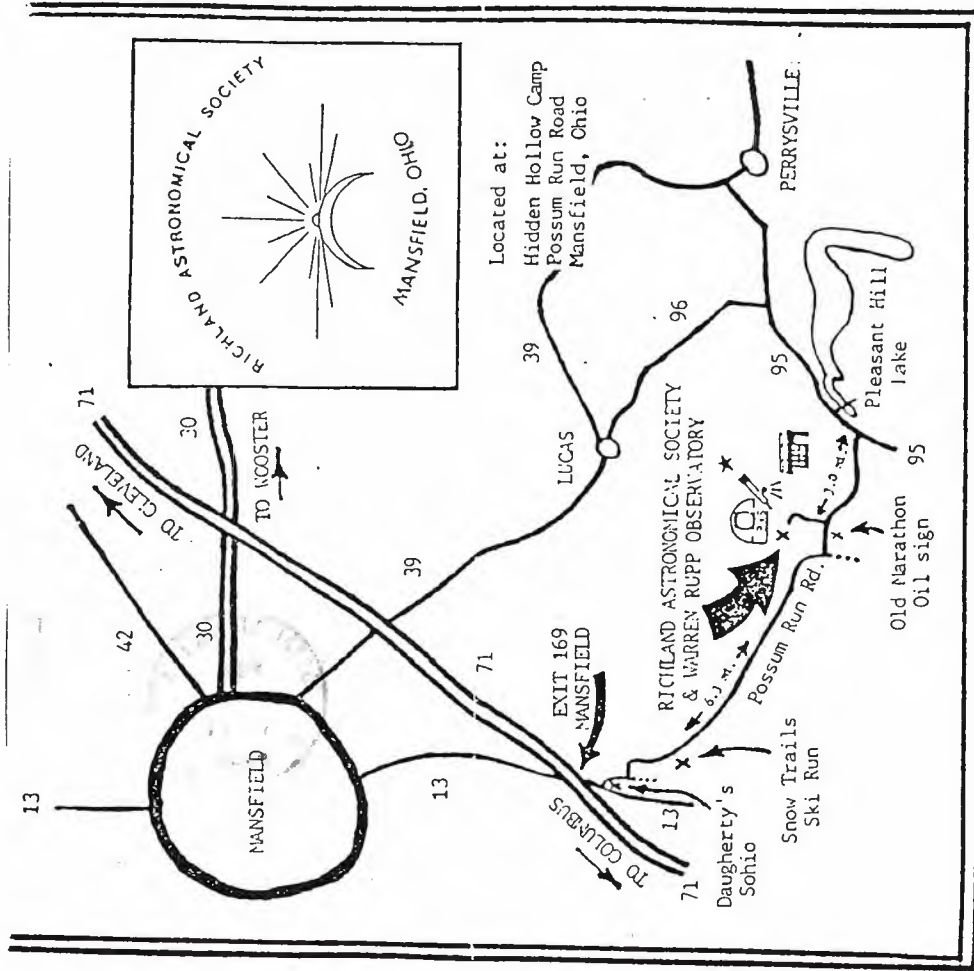
On September 30th and October 1st, 1988, the Richland Astronomical Society will be holding their second annual convention and starparty at Hidden Hollow Camp near Mansfield, Ohio. Located at the camp is the Warren Rupp Observatory, with the 31" f/7 Newtonian operated by the RAS. Currently being equipped with a computer control system, this is one of the largest telescopes in the world dedicated to use by amateur astronomers. Come and see the heavens as few people ever have the opportunity to do.

Featured Speaker: Stephen James O'Meara of Sky & Telescope Magazine

- Stephen James O'Meara talks about Mars
- Warren Walker speaks on Computerizing the 31"
- Tom Burns on Astronomical Accessories
- Bill Burton: A Hi-Tech Low-Tech Scope
- Door Prizes
- Star Parties Friday and Saturday (Videos if cloudy)
- Flea Market (Bring your stuff!)
- Commercial Displays
- Astrophotography exhibit (Bring yours)
- Telescope Fair - Bring your scope for display
- Astronomical "Bull Sessions"
- Lodging/meals available at the camp or nearby

For information write to: John Boggs, 811 Chestnut, Ashland, OH 44805

Commercial Organizations write: Dave Hartsel, 1609 Harding, Ashland, OH 44805



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17149 CALDWELL
DET, MI 48212

