

*The
Ford
Amateur
Astronomy
Club
Newsletter*



ASTRONOMY

Volume 3 Number 2 February 1994

BASIC OBSERVING SERIES

by Greg Bumett

This article is the eighth in a series on basic observing techniques. This month's installment concerns comet observing. Previous entries have discussed solar, asteroid, lunar, double star, variable star, star cluster, and meteor observing; the last remaining topics to be covered in future articles are planetary and deep sky observing. Each article discusses the preferred equipment and basic techniques for each type of observing. The goal is not technical depth, but to provide exposure to a wide range of observing alternatives. This may help a novice get started, or broaden the interest of a more experienced observer.

Comet Observing

To the ancients comets were "hairy stars" (from which the name "comet" derives) and were considered bad omens. We now know that they are debris from the formation of the solar system. Analysis of comets reveals the composition of the original solar nebula. The source of comets is the Oort Cloud (named for Danish astronomer Jan Oort), a spherical shell of some 10^{12} to 10^{13} comets orbiting the Sun at a distance of 50,000 AU (astronomical units; the distance from the Sun to the Earth), about 1000 times the farthest distance of the planet Pluto. From time to time a comet is diverted out of the Oort cloud by close passage of another body, and it travels into the Solar System, perhaps to become an observed comet. If the comet's orbit is further perturbed by passing close to a planet (Jupiter is usually the culprit), it can become a "short period comet" like Comet Enke, which has an orbital period of 3.3 years. Otherwise it remains a "long period comet" whose orbit may extend almost all the way back out to the Oort cloud, like Comet Kohoutek, which has an estimated period of 80,000 years.

Comets are composed of a conglomeration of rock, dust and ices, including water and methane ice. The prevailing model of comets for many years has been Fred Whipple's "dirty snowball" model, but that has recently been challenged by observations suggesting that comets may be more closely related to asteroids

than previously thought. In any case, as a comet approaches the Sun, the volatile ices begin to evaporate. The resulting gas, combined with dust from the comet, form the "coma" that we observe. The coma usually begins to appear when the comet is about 3 AU from the Sun. The body of the comet itself (referred to as the "nucleus") may only be 0.1 to 10 km in diameter, while the coma can expand to 10^5 to 10^6 km. The evaporation of ice from the comet can also produce forces that alter the orbit of the comet. Consequently, comet orbits are notoriously difficult to predict accurately.

As the comet gets closer to the Sun, the ejected material may form tails. Often there are two separate tails: The gas or "ion" tail projects from the comet directly away from the Sun, regardless of the true motion of the comet. The gas is driven by the solar wind and more or less ignores the comet's orbital motion. The dust tail, on the other hand, lies approximately along the orbit of the comet, because the particles of dust respond more to gravitational effects than to the solar wind. Often the tails are distinctly separate, and are usually different colors.

For the amateur astronomer there are essentially two major observational "events" associated with comet observing: "recovery" of known comets, and "discovery" of new comets. The predicted return of a known comet is often inaccurate, and being the first to observe a returning periodic comet is still a significant achievement. Over 600 periodic comets are known. Although only a handful attain naked-eye brightness, many become interesting telescopic objects and can be located with the help of positional information published in magazines and ephemerides.

Discovering a comet is still a very real possibility for the amateur, but significant dedication and perseverance are required. Many comets are now discovered by professionals using photographic techniques, but about half are still discovered by amateurs; on average about five per year.

(continued on page 2.)

STAR STUFF

Monthly Publication of the
Ford Amateur Astronomy Club
Star Stuff Newsletter
P. O. Box 7527
Dearborn, Michigan 48121-7527

1993 CLUB OFFICERS

President:	Greg Burnett	24-81941
Vice President:	Brian Gossiaux	39-03935
Secretary:	John St. Peter	535-2755
Treasurer:	Al Czajkowski	84-57886

GENERAL MEETINGS

The Ford Amateur Astronomy Club holds regular general meetings open to the public on the fourth Thursday of the month at 5:00 pm. Meetings are held at the Ford Motor Credit Company (FMCC) building, northeast of the World Headquarters building in Dearborn, in the "Systems K" conference room, lower floor, NorthEast corner.

OBSERVING SITE

The Ford Amateur Astronomy Club has an established observing site, by permit, at the Spring Mill Pond area of the Island Lake Recreational Area in Brighton, Michigan located near the intersections of I-96 and US-23. Observing at this location is usually held on any clear weekend and holiday evenings or as specified in the observing hotline phone message.

OBSERVING HOTLINE NUMBER (313) 248-1941

On Friday and Saturday nights, or nights before holidays, you can call the hotline numbers up to 2 hours before sunset to find out if we will be observing that night. Assume that any clear Friday or Saturday night is a candidate observing night unless something else is going on or if none of the club officers are able to make it.

MEMBERSHIP AND DUES

Membership to the Ford Amateur Astronomy Club is open to both Ford and Non-Ford Motor Company employees. The general public is also welcome to join. The dues structure is as follows:

Annual Individual/Family	\$20.00
Lifetime Membership	\$100.00

Membership benefits include a subscription to the Star Stuff newsletter, discounts on subscriptions to Astronomy and/or Sky & Telescope magazine(s), after hour use of the observing site at Island Lake Recreational Area, and discounts at selected local area astronomical equipment retailers.

NEWSLETTER STAFF

Editor:	Brian Gossiaux	39-03935
Contributing	Patti Smith	Doug Bock
Editors:	Greg Burnett	Gary Miller

NEWSLETTER SUBSCRIPTION

A yearly subscription at a rate of \$12.00 is available to those who are not members of the Ford Amateur Astronomy Club. Subscriptions are free to any other Astronomy Clubs wishing to participate in a newsletter exchange.

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(Continued from page 1.)

Since a newly discovered comet is named for the first person to observe it, there is substantial motivation for comet hunting. Only about 300 to 400 people have discovered comets in all of history, and only 150 or so have found more than one. The record is still held by Jean Louis Pons, the doorkeeper at the Marseille observatory (I don't know if this makes him a professional?), who discovered 37 comets between 1801 and 1837. More recently, George Alcock in England, Kaoru Ikeya in Japan, and William Bradfield in Australia (among others) have achieved notoriety for their comet discoveries. On average it takes about 300 hours of observing, with good technique, to discover a comet.

Comet hunters typically use telescopes in the 6-inch to 12-inch aperture range, and employ very low magnification. The best technique is to sweep consistent areas of the sky, usually in the early morning. It is important that the observer become familiar with all the non-stellar objects in their sweeping area, lest they be mistaken for comets. Charles Messier was a comet hunter who compiled the Messier Catalog of "M" objects to help others avoid misidentification. If you think you have found a new comet, you must report the find immediately by telegram to the Central Bureau for Astronomical Telegrams at the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts.

Good hunting!

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PRESIDENT'S CORNER

Well, I guess I'll be writing in this corner for another year; thank you for your vote of confidence in electing me president for a second term. I hope to measure up to your expectations. My personal thanks also to Brian, John, and Al for committing their time and efforts as club officers.

One goal I am setting for 1994 is to increase the attendance at our observing sessions. As many of you have heard me say before, I'm convinced that "Amateur Astronomy" is about being under the night sky. Meetings and interesting talks have their place in our hobby, but the core of it is observing. I will be looking for ways to encourage folks to come out with us to observe. Some suggested methods for doing this have included: Establishing a friendly competition with a point system of some sort; Obtaining club-owned equipment (i.e. binoculars & telescopes) for loan to folks who haven't yet obtained their own; And holding more "structured" observing events like the Messier Marathon. Please share your ideas for making the "club observing experience" a more attractive one, and for bringing down whatever obstacles are deterring folks from joining in the fun.

Hope to see you soon!

Greg Burnett

HUBBLE RESULTS

Topping the list is the long-awaited release of images from the recently repaired Hubble Space Telescope. To say that astronomers are excited about the new views would be an understatement. Images of the spiral galaxy M100, the Orion Nebula, Eta Carinae, the globular star cluster R136, and other objects have shown just how much Hubble's performance has improved. In fact, images from the new Wide Field and Planetary Camera and from the optically corrected Faint Object Camera are so good that even in their raw form they are noticeably better than views from the "old" HST that had undergone massive computer restoration. Calibration tests are just about over, and project astronomers estimate all the instruments will be back on the job within about a month. Meanwhile, we on the sidelines can sit back and admire the clearest views of the universe ever taken.

MACHO MEASUREMENTS

A team of astronomers from California and Australia report new evidence for the existence of Massive Compact Halo Objects (MACHOs). These dark objects are believed to account for 90 percent of the Milky Way's mass. Using automated telescopes and detectors, the team has followed the brightness of some six million stars more than a year. In reporting the observations, team member Charles Alcock said it appears that the dark matter is spread through a sphere on the galaxy's fringe known as the galactic halo.

BIG BANG CHALLENGE

You'll recall that last summer SKY & TELESCOPE kicked off a worldwide contest to rename the Big Bang, which is the term commonly used for the standard cosmological theory, who coined the term in 1950. S&T Technical Editor Rick Fienberg proclaimed the undertaking a resounding success, since the Big Bang Challenge struck a chord with people around the world. Awareness of astronomy was raised significantly, he says, as millions of non-astronomers found themselves pondering the origin of space and time.

MERCURY'S HIGH

The featured object in the evening sky this week is the planet Mercury, which reached greatest elongation from the Sun on Friday the 4th. At midtwilight, Mercury will be 8 degrees above the horizon for mid-northern latitude observers. But, though it remains high in the sky, as the days pass, it quickly fades, from magnitude -0.5 to +1.4 in only a week.

COMET OCCULTATION

For a tougher, but more unusual, observing target, you may want to try for the stellar occultation by a comet. On the night of February 9th, 14th-magnitude Comet Schwassman-Wachmann 1 is predicted to pass in front of an 11.7-magnitude star in

Gemini. The occultation will only be seen within a swath only 100 or so miles wide predicted to stretch from Southern California to the Delmarva Peninsula. See page 72 of the February issue of Sky & Telescope for more details.

NOVA CASSIOPEIA 1993

Nova Cassiopeia 1993 is still about 8th magnitude. The nova's equinox 2000 coordinates are right ascension 23 hours 41.8 minutes, declination 57 degrees 31 minutes.

CLEMENTINE ON ITS WAY

After a plagued start, the Clementine spacecraft has left its parking orbit around Earth. Launched on January 25th, the Defense Department's spacecraft was having some communications difficulties, one of which nearly drained the spacecraft's batteries. An early morning rocket firing on February 3rd sent Clementine into a series of gradually widening orbits around the Earth. On February 20th, the thrusters fire again to guide the probe into its lunar orbit, where it will spend two months completely mapping the Moon from a polar orbit. Afterward, Clementine will leave the Earth/Moon system to flyby the asteroid Geographos on August 31st.

CAPELLA RESOLVED

At the January meeting of the American Astronomical Society, two researchers presented a scale diagram of the binary star system Capella that, for the first time, shows not only the stars separated but their relative sizes as well. Capella consists of two giants, each about 2.5 times more massive than the Sun. Component A has spectral type G8 or K0 and outshines the Sun by 70 times, while B is G1 and slightly brighter at 90 Suns. Christian A. Hummel and J. Thomas Armstrong of the Universities Space Research Association used the Mark III interferometer on Mount Wilson to chart the 104-day orbit of A relative to B with unprecedented precision and to determine the giants' diameters (9 and 7 Suns, respectively). Earlier studies had roughed out the orbit and yielded a size estimate only for Capella B. The Mark III data also yield an improved distance for Capella, 43.4 light-years.

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REQUEST FOR ARTICLES/PICTURES

The newsletter is always in need of articles and pictures (photographs, cartoons,...). Our primary interest is to publish articles/pictures that were done/made by our members. Articles/pictures for the newsletter should be sent to any of the newsletter/club officers or brought to the monthly club meetings. Local events, announcements, and classified items may be submitted up to one week prior issue and will be printed if layout space is available. The newsletter staff members do have access to optical scanners and can convert typed articles/pictures to the correct wordprocessor format. For those who have access to the FORD PROFS mail system, articles may be sent via PROFS or uploaded/downloaded through the same.

FROM DOUG'S DECLINATION

by Douglas Bock
PROFS=DBOCK1

Observing Log from the Northern Cross Observatory February 3, 1994

Hello again. This last month we had two star parties scheduled. One of them was clouded out while the January 15th party was clear. Although it was clear it was definitely cold, about -10 degrees or so. Roger Tanner called me about 5:00 and asked if he could bring his computer and CCD equipment out to use on the 12 inch. After discussing the weather conditions with him he still decided to give it a try. I told him I would participate in this madness, so he wouldn't be alone. I didn't want to wake up the next morning and have a frozen astronomer in my backyard. ha ha. We were interested in capturing images of Comet Mueller or Comet Encke with his equipment.

Roger arrived about 7:00 that evening and the temp had already dropped to -12. He set up his computer in the observatory, wrapped in blankets, while I tried to get the telescope working. The cold had already affected the telescope controller somewhat. When Roger powered up the computer, it seem to hum along ok, but the monitor never displayed anything. So he started rooting around to make sure everything was plugged in ok. After several attempts at getting it running we came to the conclusion that the computer was ok, but the monitor couldn't handle the cold. Meanwhile the scope controller was coming around since it generates a substantial amount of heat on its own. So the scope was starting to work correctly. However, about an hour had gone by now, and we were in jeopardy of not working well ourselves. While Roger kept working on the computer I decided to see if the comets could even be found now, since I knew we were approaching their setting times. Sure enough, they were less than 5 degrees above the horizon by now. I think it was about 8:30 pm by this point. It was also 90 minutes into our session now. I now decided that our original objectives were gone and that we were pretty foolish to even try. (BIG SURPRISE). But before I called it quits, I suggested that we should at least observe something before turning in. So M42 was it. The usual spectacular view. Now lets get off this icy rock. We packed it in and went inside.

It took Rogers computer about 40 minutes for the frost to dissipate from the monitor before he dared turn it on again. However, it did boot up ok. We spent the next couple of hours running a bunch of his astronomy software. I also powered up my computer and worked on a few things.

Even though we didn't accomplish much, it was still fun to give it all a try. One thing I know is that you won't accomplish anything if you don't at least try.

Things to look forward to this next month are star parties on Feb. 12, March 5, March 12 and possibly the EMU freeze-out. By the way, the March 12 star party will be focusing on the Messier Marathon. If you have more questions about this, feel free to ask me.

Until next time, hope you have clear weather.

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The Sun whose rays...

Submitted by Patti Smith

Words to a song from "The Mikado" by Gilbert and Sullivan

The sun whose rays are all ablaze with ever living glory.
Does not deny his majesty, he scorns to tell the story.
He don't exclaim, "I blush for shame, so kindly be indulgent."
But fierce and bold in fiery gold he glories all effulgent.

I mean to rule the earth as he the sky.
We really know our worth, the sun and I.
I mean to rule the earth as he the sky.
We really know our worth, the sun and I.

Observe his flame that placid dame,
the moon celestial highness.
There's not a trace upon her face
of diffidence or shyness.
She borrows light that through the night,
mankind may all acclaim her.
And truth to tell she lights up well,
so I for one don't blame her.

Ah, pray make no mistake, we are not shy.
We're very wide awake, the moon and I.
Oh pray make no mistake, we are not shy.
We're very wide awake, the moon and I.

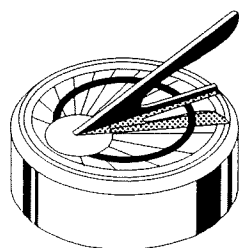
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OCCULTATION BY 52 EUROPA

Between 00:22 and 00:24 am local time on February 22nd, a 10.4 mag. star is to be occulted by asteroid 52 Europa. Information of this event along with charts was provided by John St. Peter, but, due to limited space in this issue the cannot be displayed. Those wishing a copy of John's charts of this event should call Brian Gossiaux at 390-3935. More info can be obtained from the 2/94 issue of Sky & Telescope, page 7, in the Celestial Calendar. Sorry John!

ASTRONOMY WORKSHOP

By Gary W. Miller, Star Gazer



PROFS: gmille12

FAX: 84-55349

(call to let me know something has been sent)

PHONE: 84-54150

This is the sixth installment of this column. The new answers are included below with some repeats from previous columns.

Q15. Why is there only a window of two hours or so for a Space Shuttle launch? If the Shuttle is going around the Earth only, how does it matter when it's launched?

A15. Actually it matters where the object will be when it is in its final position. The principles of Celestial Mechanics are used to determine when an object should be launched to place it in a predetermined location. Another way to think about this concept is to imagine yourself bird hunting...when you sight the birds flying and get ready to take a shot...do you aim where the birds are or where they will be? If you plan to hit them, you should aim where they will be. Keep in mind, that in space...everything is moving relative to one another, it is not a static situation. GMiller

A15. Launch windows (which are not always two hours; they can be as short as a few minutes) are determined by a very complex combination of constraints on where you want your vehicle to be when. What ground track is desired? Do you plan to rendezvous with another vehicle? What parts of your mission should occur in daylight and what parts in darkness? Where do you plan to land and when, during daylight or darkness? How much of your energy budget can be allocated to orbital corrections? etc, etc. GBurnett

Q19. What is a good test for the optical quality of a telescope?

A19. The best test that can be easily performed by an amateur without add'l equipment is the "star test," which refers simply to observing a moderately bright star on a night of good seeing. A star, because it is so far away, provides a true point source of light. A telescope's response to a point source will betray most of the common optical flaws. The appearance of the star in-focus should be that of the "Airy Disc", a bright spot surrounded by faint diffraction rings. All colors should come to focus at the same time.

The out-of-focus star image should be a series of concentric rings (like a target). They should be perfectly circular (plus or minus any normal obstructions that may be in your optical path), and they should appear the same inside and outside of focus. These descriptions are very general. Books are available that illustrate the appearance of star images in telescopes with various optical flaws, allowing the observer to diagnose his telescope in some detail. It is also possible to create artificial stars so that

testing can be accomplished during daylight hours. One method of creating an artificial star is to observe the reflection of the Sun in a shiny ball bearing placed a hundred yards or so from the scope. GBurnett

Q22. Is there a "best" time to see the planets?

A22. The best time to observe a superior planet (i.e. a planet further from the Sun than the Earth) is at "opposition" when that planet is positioned in the opposite direction from the Sun. At that time the planet will be closest to the Earth, and will be maximally illuminated by the Sun. Some oppositions are better than others because the orbits of the Earth and of the planets are not exactly circular, so the Earth-planet opposition distance will vary from opposition to opposition. This is especially important for observing Mars. Inferior planets (i.e. those closer to the Sun than the Earth: Mercury and Venus) are best seen during maximum "elongation" either East or West, when the planet is angularly most displaced from the Sun from our point of view. During opposition or conjunction of an inferior planet, it is exactly in line with the Sun and can't be seen at all. GBurnett

Q16. How can anybody (earthly being) take a picture of Our Own Galaxy?

Q17. What would be a basic set of filters to acquire?

Q18. What basic star charts do recommend?

Q20. What causes the aurora? Where is the best place to see it?

Q21. What are "deep-sky" objects?

Q23. Would you recommend some "necessary" accessories to add?

Q24. What are "enhanced coatings" and what do they do?

Q25. What are your suggestions to reduce light pollution?

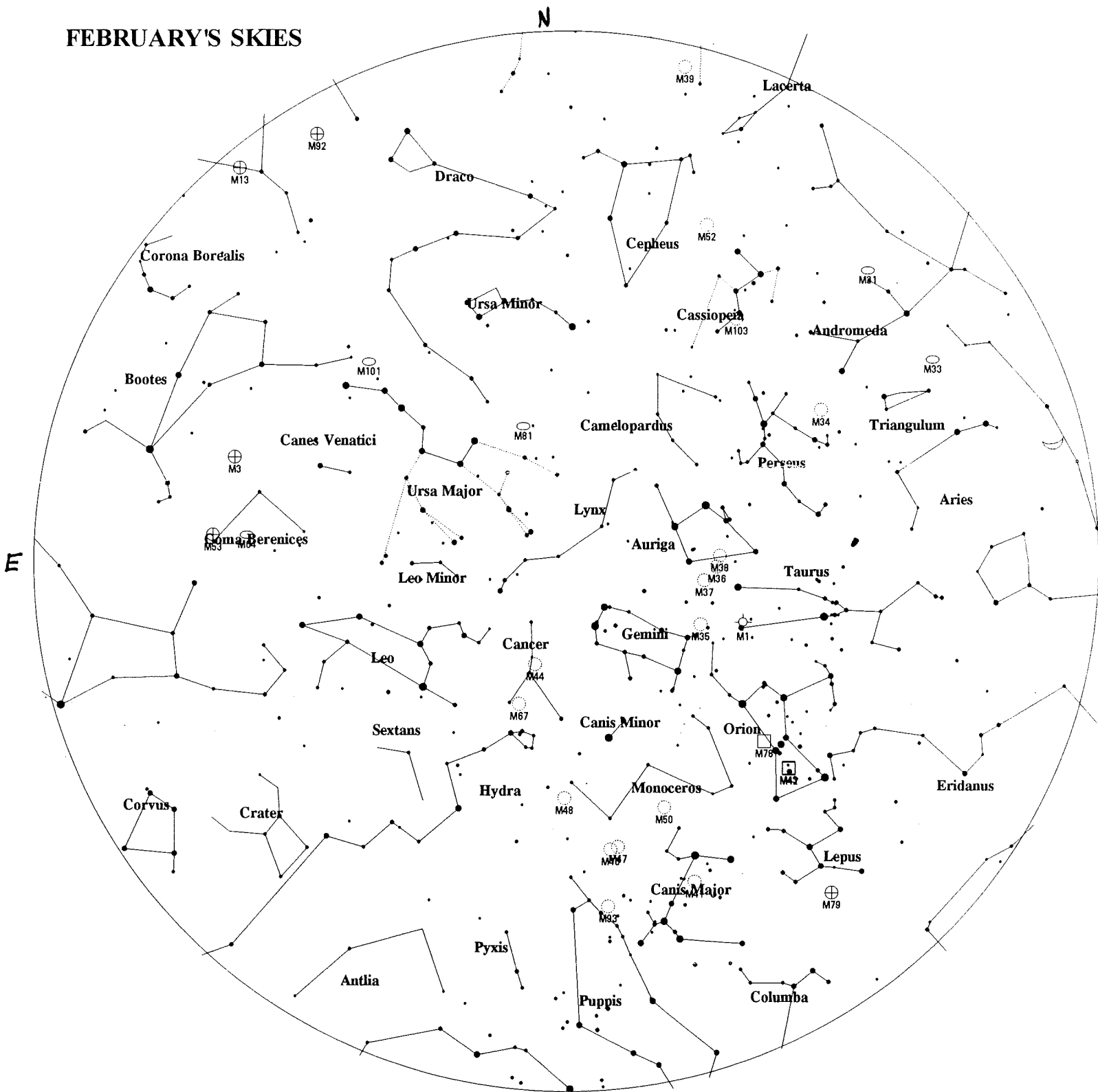
Q26. Is it ever the same day all over the world? If so, when, and what time is it here (EST) then?

Q27. When you place an off-axis aperture mask on a Dobsonian (or any large Newtonian reflector) to increase its resolution, eg. for planetary observing, you have actually created a new optical configuration. What is that configuration called and why was it so named?

OBSERVATIONS: For those of you who would like a reasonable summary of the space program from WW II through the initial Shuttle Missions, I would highly recommend the book Space, by James Michener. Michener's works are pretty lengthy, but I think that he does a good job explaining some of the more complex ideas for the layman. How many of us are even remotely familiar with celestial mechanics and the extensive training necessary to become an astronaut. This book may only be a novel, but there are a lot of facts presented. Try it. You won't be disappointed.

Until next time.....clear skies.





FEBRUARY'S SKIES



February's Skies - Ford Astronomy Club, 2/15/94, 23:00 EST

Center at: RA: 8h 0m Dec: +40d 0' Date: 2/15/94, Time: 11:00 PM

February 1994

SUN	MON	TUE	WED	THUR	FRI	SAT
		1	2	3 	4	5
				Jupiter 3° N. of Moon LAST QUARTER MOON		
6	7	8	9	10 	11	12
				NEW MOON		Star Party at Doug Bock's
13	14	15	16	17	18 	19
		Moon at apogee			FIRST QUARTER MOON	
20	21	22	23	24	25 	26
	Saturn in conjunction with Sun			The Ford Amateur Astronomy Club meeting	FULL MOON	E.M.U. "Freeze Out" Conference Mercury 4° N. of Mars
27	28					
Moon at perigee						

NEXT MONTH

The Ford Amateur Astronomy Club general meeting is March 24th!
Star parties at Doug Bock's March 5th & 12th. Doug's Messier Marathon on the 12th!

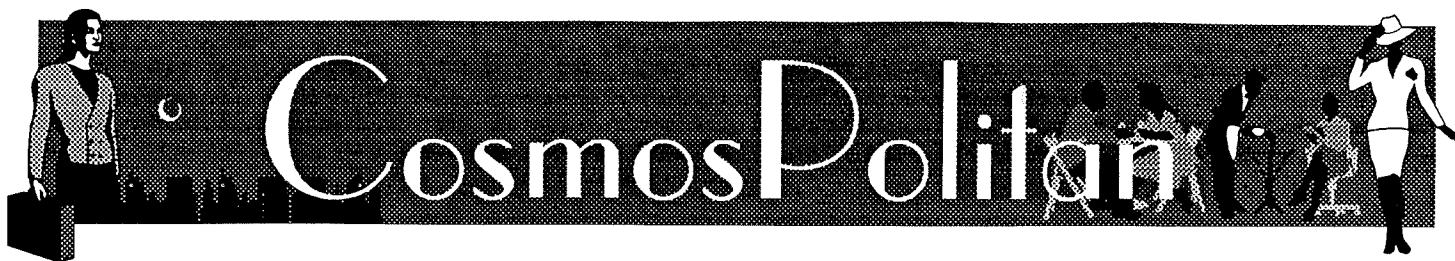
MEETING ANNOUNCEMENT -- February 24, 1994

The Ford Amateur Astronomy Club holds regular general meetings on the fourth Thursday of each month. Our next meeting will be Thursday, February 24, at 5:00 p.m.

The program for the meeting will be presented by Barry Craig of the Detroit Astronomical Society. Barry will give us an introduction to digital and video astronomy, using the latest presentation technologies to display astronomical and computer images. This promises to be a visually stimulating program, so don't miss it!

The Ford Amateur Astronomy Club meets in the Ford Motor Credit Company (FMCC) "Systems K" conference room, located on the lower floor in the far NorthEast corner of the building. FMCC is the low building immediately northeast of (but not attached to) Ford World Headquarters in Dearborn. The FMCC building is secured with a card entry system. The easiest way to enter the building for meetings is to park in the northeast lot (Employee Lot 7) and enter through the lower northeast door. At 5:00 p.m. no one seems to have much trouble getting in because many people are leaving around that time. If it becomes a problem we will just prop the door open. You may, of course, find your way into the building any way you see fit, but I will post direction signs only between the lower northeast door and the meeting room.

IMPORTANT UPDATE about building access: Secured doors are presently being installed to limit access to the lower floor from the front (south) building door. If any folks have been entering there because there was no security, that will no longer be the case. Your best bet will be the lower northeast door; the receptionist will not let you in at the front door.



I was curious about the beginnings of the Ford Amateur Astronomy Club, so I asked Greg Burnett, the President. While I was at it I asked him some other questions as well. Here are his answers.

SS: How did the Ford Amateur Astronomy club get started?

GB: Back in 1991 I was perusing the FERA bulletin board on PROFS and it occurred to me that there wasn't an amateur astronomy club and there ought to be one. I inquired with the Fera folks as to how one went about starting a club. They said there was a club kick-off meeting coming up in '92 and if enough people expressed interest in forming a club, we should attend the meeting and they would help us get started. It turned out that at least four people expressed interest in an astronomy club to FERA, but they would not tell me who they were. Anyway, the FERA kick-off meeting was held in May of 1992 and by that time about a dozen people had signed up as potential members. Among those attending the May meeting, in addition to me, were Brian Gossiaux and Carolyn Patterson (who ended up chairing the Ford Musicians Club). Please forgive me, because I know there were a couple of other people at the kick-off meeting, but I don't recall who they were. The Ford Amateur Astronomy Club held its first official meeting in June, and as they say, the rest is history!

SS: How did you get started in amateur astronomy?

GB: When I was six or seven years old my father bought a 4-1/4 inch reflecting telescope from Edmund Scientific (for \$79.95!!). I remember him showing me the straight wall on the moon, and lining it up so I could see the "Echo" satellite go whizzing through the field. Dad was never really "hard-core" when it came to astronomy, but I was hooked!

SS: What is your amateur astronomy background.

GB: Since I was first exposed to it at an early age, I have pursued astronomy off and on, but strictly as an amateur. I never took a high school or college course in astronomy, but I did read books on the subject. I vividly recall seeing pictures of Halley's Comet and reading that it would return in 1986, which seemed like FOREVER! I pretty much dropped the hobby during college, and got real interested in amateur radio after getting out of school. After a few years of that, I sold off my radio station to help finance a "real" telescope, and got back into astronomy.

SS: I know you are an avid observer, what do you like most about observing?

GB: At the risk of sounding melodramatic, I must admit that my approach to amateur astronomy is more spiritual and aesthetic than scientific. I enjoy looking at the heavens and having the technical knowledge to appreciate our place in the universe. I've

never gotten too excited about measuring things or counting things. It even took me a long time to get into astrophotography. I like to look at a globular cluster and wonder what it might be like to live there, and whether anyone there is looking back at us, wondering what it might be like to live near a lonely little "normal" star.

SS: What do you like the least?

GB: What I like least is mosquitoes!

SS: Will you relate your most memorable observing experience?

GB: I think it would have to be the 1991 solar eclipse, even though I didn't travel to be on the path of totality (I'll be forever jealous of those who did!). I took the afternoon off work and set up my telescope near Fairlane Office Center where I worked at the time. I had stuck up notes by the elevators in the building advising people to come out and view the eclipse, modest as it was from this location (8% I think). I figured a handful of folks might stop by. To my amazement, around a hundred people showed up! They stood in line to look through the telescope, and passed around a welders glass for "naked" eye viewing. It turned out to be a grand event! It was very gratifying to see that much interest in astronomy from the public.

SS: How do you see the future of the FAAC?

GB: I would hope that our club will continue to be a place where new people can learn about our hobby. I've heard so many stories about "stuffy" clubs, and I hope we never suffer from those ills. I'd like to see the FAAC become an organizing force for the various clubs in our region. It seems to me that the value of astronomy clubs rests in getting people together to share ideas and enjoyment, and the more widely that is carried out, the better! I think we have a good start, and it looks like there's enough interest to carry on.

Greg is married and has two children. A son age 16 and a daughter age 9. He has an MS and a BA in Computer Science from Southern Illinois University. He started at Ford right out of school working in Systems with the Casting Division, the Corporate Data Center, the Scientific Research Lab, Finance Staff and Ford Credit, where he is now. His other hobbies include amateur radio (callsign KB8NU, advanced class), competitive pistol shooting (member of the Ford Gun Club) and Latin Percussion (member of the Ford Musicians Club). Many thanks to Greg for answering all the questions. I would strongly suggest that if you haven't talked to Greg about astronomy yourself that you make time to do so. He has a great way of making people feel welcome and loves to talk about all things bright and beautiful.

I am hoping to have an interview in the newsletter each month.

Ratti Smith

STATISTICALLY SPEAKING....

Dearborn, MI

Latitude: 42°22'00" N Longitude: 83°17'00" W

Local Time = UT - 5.00 hours Elevation: 180 meters

Times are in 24 hour format.

Abbreviations used in reports:

FQ First Quarter Moon
FM Full Moon
LQ Last Quarter Moon
NM New Moon
SR Sunrise
SS Sunset
MR Moon Rise
MS Moon Set
UT Universal Time

February 1994

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
		SR: 7:47	SR: 7:46	SR: 7:45	SR: 7:44	SR: 7:43
		SS: 17:47	SS: 17:48	SS: 17:50	SS: 17:51	SS: 17:52
		MR: None	MR: 0:18	MR: 1:29	MR: 2:37	MR: 3:40
		MS: 10:15	MS: 10:52	MS: 11:33	MS: 12:20	MS: 13:13
				LQ: 3:07		
6	7	8	9	10	11	12
SR: 7:41	SR: 7:40	SR: 7:39	SR: 7:38	SR: 7:36	SR: 7:35	SR: 7:34
SS: 17:54	SS: 17:55	SS: 17:56	SS: 17:58	SS: 17:59	SS: 18:00	SS: 18:01
MR: 4:36	MR: 5:25	MR: 6:07	MR: 6:43	MR: 7:14	MR: 7:43	MR: 8:09
MS: 14:12	MS: 15:15	MS: 16:20	MS: 17:24	MS: 18:28	MS: 19:29	MS: 20:30
				NM: 9:32		
13	14	15	16	17	18	19
SR: 7:33	SR: 7:31	SR: 7:30	SR: 7:28	SR: 7:27	SR: 7:26	SR: 7:24
SS: 18:03	SS: 18:04	SS: 18:05	SS: 18:07	SS: 18:08	SS: 18:09	SS: 18:10
MR: 8:35	MR: 9:01	MR: 9:29	MR: 9:59	MR: 10:32	MR: 11:11	MR: 11:55
MS: 21:29	MS: 22:28	MS: 23:26	MS: None	MS: 0:24	MS: 1:21	MS: 2:17
					FQ: 12:49	
20	21	22	23	24	25	26
SR: 7:23	SR: 7:21	SR: 7:20	SR: 7:18	SR: 7:17	SR: 7:15	SR: 7:14
SS: 18:12	SS: 18:13	SS: 18:14	SS: 18:15	SS: 18:17	SS: 18:18	SS: 18:19
MR: 12:46	MR: 13:43	MR: 14:47	MR: 15:54	MR: 17:06	MR: 18:19	MR: 19:33
MS: 3:10	MS: 3:59	MS: 4:43	MS: 5:24	MS: 6:01	MS: 6:35	MS: 7:08
					FM: 20:17	
27	28					
SR: 7:12	SR: 7:10					
SS: 18:20	SS: 18:22					
MR: 20:48	MR: 22:03					
MS: 7:41	MS: 8:15					

Planet View Info Report for 2/1/1994 to 2/28/1994

Date	Rise	Set	RA	Mercury Dec	Elongation	Ill Fr	DIST (AU)
2/1/1994	8:37	19:18	22h06m41s	-12°03'36"	17°31'18"	0.689	1.06078
2/8/1994	8:17	19:26	22h31m23s	-7°52'02"	17°38'58"	0.383	0.86827
2/15/1994	7:39	18:55	22h28m02s	-6°16'13"	10°46'58"	0.089	0.70388
2/22/1994	6:52	17:52	22h01m32s	-8°09'00"	5°07'28"	0.015	0.63588

Date	Rise	Set	RA	Venus Dec	Elongation	Ill Fr	DIST (AU)
2/1/1994	8:06	18:02	21h13m21s	-17°26'02"	3°48'35"	0.998	1.70842
2/8/1994	8:02	18:20	21h48m10s	-14°45'14"	5°26'57"	0.996	1.70392
2/15/1994	7:56	18:38	22h22m02s	-11°44'41"	7°06'21"	0.993	1.69737
2/22/1994	7:49	18:56	22h55m03s	-8°28'49"	8°46'29"	0.989	1.68872

Date	Rise	Set	RA	Mars Dec	Elongation	Ill Fr	DIST (AU)
2/1/1994	7:27	16:55	20h22m06s	-20°28'27"	8°57'46"	0.997	2.37342
2/8/1994	7:16	16:56	20h44m39s	-19°09'19"	10°35'23"	0.996	2.36089
2/15/1994	7:04	16:57	21h06m54s	-17°40'01"	12°11'10"	0.994	2.34789
2/22/1994	6:52	16:58	21h28m48s	-16°01'35"	13°45'01"	0.993	2.33452

Date	Rise	Set	RA	Jupiter Dec	Elongation	Ill Fr	DIST (AU)
2/1/1994	1:26	11:40	14h45m20s	-14°42'05"	88°29'18"	0.992	5.37631
2/8/1994	1:01	11:14	14h47m22s	-14°49'56"	95°04'39"	0.992	5.26261
2/15/1994	0:35	10:47	14h48m51s	-14°55'10"	101°47'37"	0.992	5.15003
2/22/1994	0:09	10:21	14h49m44s	-14°57'44"	108°38'08"	0.993	5.04019

Date	Rise	Set	RA	Saturn Dec	Elongation	Ill Fr	DIST (AU)
2/1/1994	8:42	19:12	22h10m57s	-12°44'21"	18°18'25"	1.000	10.73496
2/8/1994	8:17	18:49	22h14m08s	-12°26'51"	12°04'00"	1.000	10.76501
2/15/1994	7:52	18:26	22h17m21s	-12°09'03"	5°54'55"	1.000	10.78259
2/22/1994	7:26	18:03	22h20m36s	-11°51'06"	1°29'56"	1.000	10.78755

Planet Apsides Report for 2/94

Mercury
2/7/1994 Perihelion Distance from Sun: 0.31 AU

Planet Conjunction/Opposition Report for 2/1/1994 to 2/28/1994

Mercury
Date 2/20/1994 Hour 3 Event Inferior Conjunction
Saturn
Date 2/21/1994 Hour 6 Event Conjunction

Moon Apsides Report for 2/1/1994 to 2/28/1994

Date 2/15/1994 Hour 20 Apsis Apogee Distance (km) 404959 Diameter 0.4918°

Twilight Report for 2/1/1994 to 2/28/1994

Date	Sun Rise	Set	Astronomical Begin End	Nautical Begin End	Civil Begin End
2/1/1994	7:47	17:47	6:06 19:28	6:39 18:55	7:12 18:22
2/8/1994	7:39	17:56	5:59 19:36	6:32 19:03	7:05 18:30
2/15/1994	7:30	18:05	5:51 19:44	6:24 19:12	6:56 18:39
2/22/1994	7:20	18:14	5:42 19:52	6:14 19:20	6:47 18:47

MEETING MINUTES - JANUARY 27TH, 1994

I must apologize for not keeping up with the publishing of the meeting minutes in the last few issues. While in the process of wearing many hats in this club, I usually found myself simply forgetting to include the minutes in the newsletter. Therefor, as a last official act as club secretary, I am including the following which by the way will be maintained by the newly elected secretary, John St. Peter. -Brian Gossiaux

Meeting came to order at 5:00pm and was facilitated by President Greg Burnett. Greg made general announcements including upcoming events, future presentations, and interclub correspondence. This was followed with a report from the treasurer, Al Czajkowski, on the club's financial standing. Discussion continued with possibilities that the club could sponsor/participate in for the May Annular Eclipse. Greg then offered a copy of the Crestwood High School Planetarium program schedule along with the Eastern Michigan University's "Freeze Out" conference flyer. This was followed with the election of the FAAC officers for the calendar year 1994. Results of the election were as follows:

President Greg Burnett
Vice-President Brian Gossiaux
Secretary John St. Peter
Treasurer Al Czajkowski

Carolyn Patterson, was elected as Refreshments Chairperson, a position created due to the need for organized procurement of 'goodies' for FAAC events.

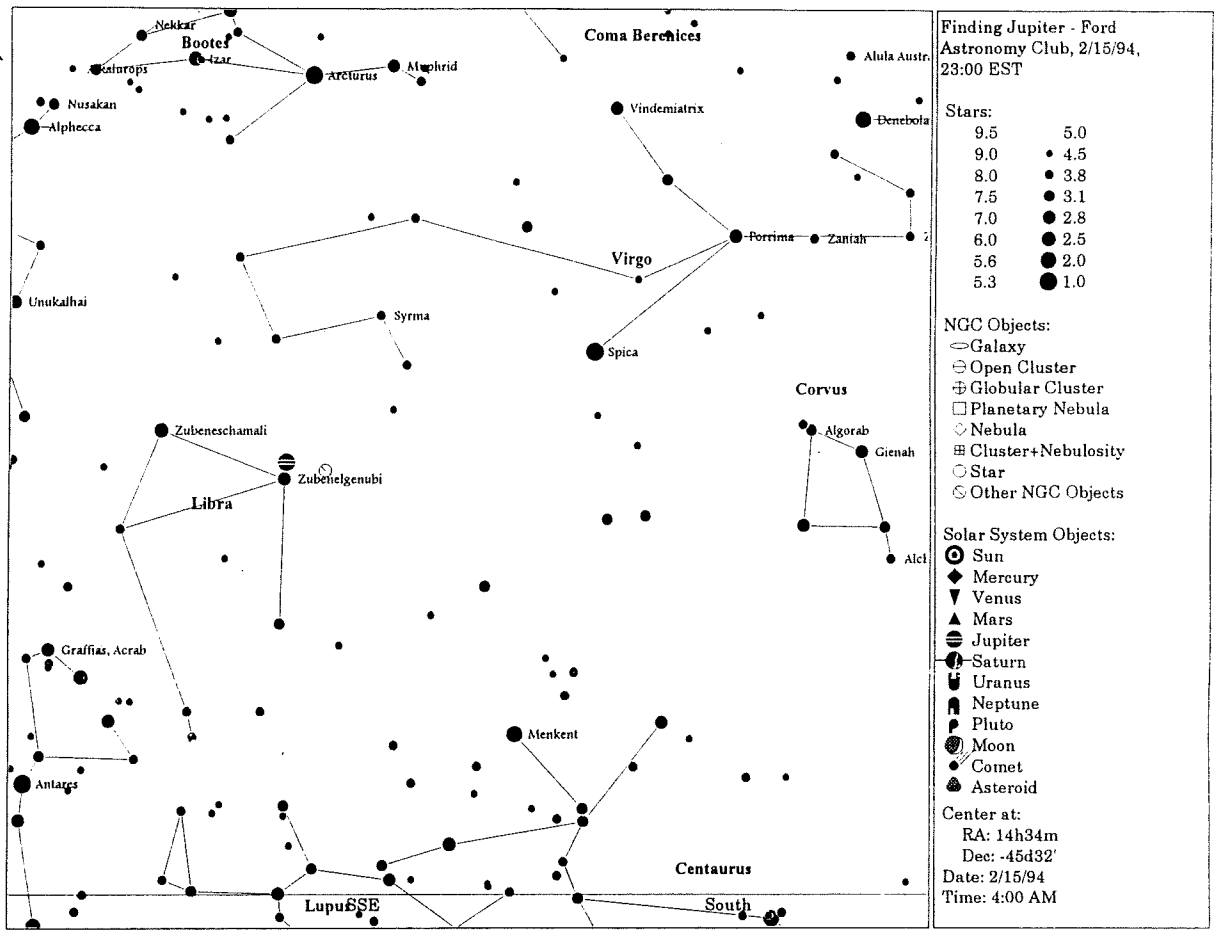
The main presentation by John St. Peter on the subject of Meteors followed the elections. Adjournment was at 6:30pm.

ALL IN A NAME

A suggestion was put forth on the possibility of changing the name of the club from the "Ford Amateur Astronomy Club" to the "Ford Astronomy Club"; dropping the word 'amateur' from the name. The club officers would like to hear opinions from the membership regarding this matter before even tabling the issue at our next meeting. If you have any comment what-so-ever, please send a PROFS message to BGOSSIAU or for those not having the Ford E-mail access please call (313) 390-3935 and speak with me personally or leave your thoughts on the voice mail. Thank you.

Brian Gossiaux

FINDING JUPITER



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