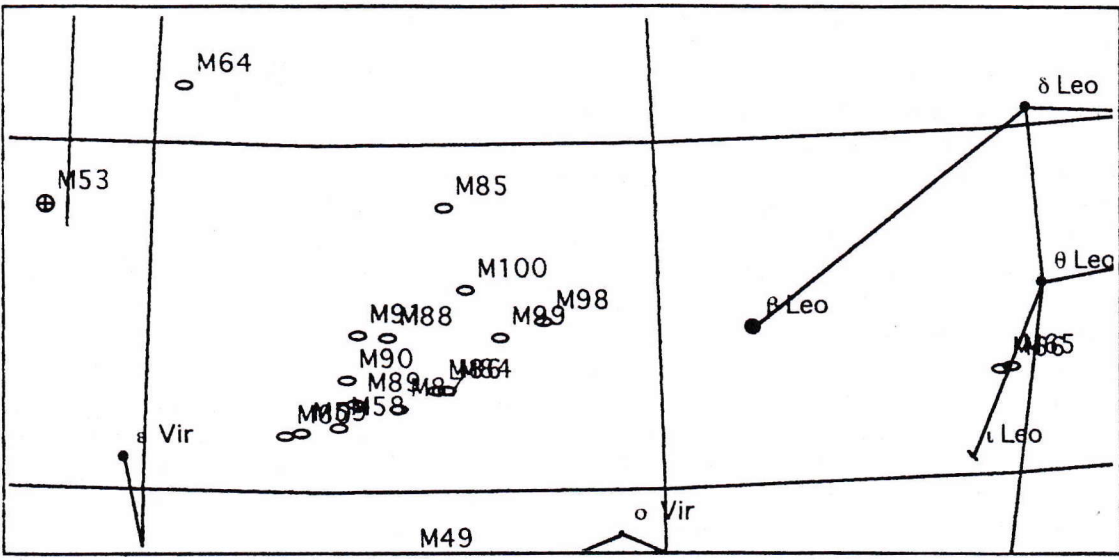


REFLECTIONS



REFLECTIONS

May 1995

Copies of planetarium programs will have to do until I learn how to paste astronomical images in to the newsletter. In the mean time there is still time to view the Coma-Virgo cluster. Taken from a demo version of SkyChart 2000 by Tim DeBenedictis. This software was featured in *Sky & Telescope's* March '95 issue.

Chris Sarnecki
Editor

Of the University Lowbrow Astronomers

The University Lowbrow Astronomers is a club of Astronomy enthusiast which meets on the third Friday of each month in the University of Michigan's Physics and Astronomy building (Dennison Hall, Room 807). Meetings begin at 7:30 pm and are open to the public. Public star parties are held twice a month at the University's Peach Mountain Observatory on North Territorial Road (1.1 miles west of Dexter-Pinkney Road; further directions at the end of the newsletter) on Saturdays before and after the new Moon. The party is canceled if it's cloudy or very cold at sunset. For further information call Bill Razgunas at (313) 995-0934.

This Month:

- May 19 - Meeting at 807 Dennison.** Mark Vincent will present a discussion on "Results of the Jovian Auroral Spectrograph Rocket Launch".
- May 21 & 22 - Saturn's rings turn edge on** as viewed from Earth. You will have to get up early not to see Saturn's rings as this is an early dawn object.
- May 23 & 26 - Club/Guest observing at Peach Mountain** with Bernard
- May 27 - Public Star Party at Peach Mountain Observatory.** Jupiter is a late pm object. A third dark belt has been seen at the impact site from Comet SL-9. Come out and see for yourself.
- May 29 - New Moon** at 9:27 UT (5:27 am EDT)

Next Month:

- June 1 - Computer Subgroup meeting** to be determined.
- June 3 - Public Star Party at Peach Mountain Observatory.** Time to start thinking seriously about packing the mosquito repellent.
- June 16 - Meeting at 807 Dennison.** Steve Schaffer will be hosting a planetarium show at Pioneer High School. This is one meeting your friends and family will not mind attending.
- June 24 - Public Star Party at Peach Mountain Observatory.** It is OK to show up a little late as darkness comes quite late this time of year.
- June 28 - New Moon** at 0:50 UT (that's June 27th at 8:50 pm EDT)

From The Editor

E-gads! So begins my historic venture in to the position of Newsletter Editor. This first issue sure is a lot of work. I have recently acquired an appreciation for the hard work of my predecessors, Doug Warshow and Kurt Hillig, both who offered support and information to get this issue going. The newsletter is being produced using ClarisWorks for Macintosh, which isn't much of a desk-top publishing program (it's really word processing), but then I am not much of a desk-top publisher yet anyway.

Our annual election of officers was held last month. Newly elected club officers can be found on the last page. As always Percival Lowell gave the Observatory Director a run for his money, but in the end Bernard Friberg prevailed. Bernard is to be thanked for his work in printing and mailing this issue.

After the elections some of the members gave brief presentations. Doug Nelle presented slides on the University of Toledo's one meter telescope. Tom Ryan explained how to drill a hole in a mirror when making a Cassegrain telescope. Tom Pettit displayed *THE SKY* astronomy software. More about this program and an explanation about the advertisement at the May meeting.

One minor change to be found in this and future issues will be to feature a different sky chart from selected planetarium programs. Redshift, SkyChart, The Sky, Expert Astronomer, Distant Suns, Voyager II, and Deep Space 3D are all programs that individual members own. I thought it would be nice to compare sky charts from the different programs available. Members in possession of these or other planetarium programs should contact me so a copy of a future month's sky can be obtained for our newsletter.

As always your club newsletter needs your articles, announcements, book & software reviews, photos, CCD images, and comments. Looking forward to hearing from ALL of our members! - Ed

Student Astronomy Group

The following report is provided from Sarah Winfrey, President of the Student Astronomical Society, University of Michigan:

We are going to continue our public nights (which have been moved to the 2nd and 4th Friday) starting on May 12th from 9pm to 11pm. Some of our members helped with a recent out-reach program which supplied some 1st and 3rd graders with some astronomical information and a tour of the Angell Hall facilities. We are planning on having some talks starting in the fall semester. During the summer, however, it looks like the main activity for the group will be the open houses.

THE SKY Astronomy Software

Software Bisque

- Level 2, 280,000 objects
- Level 3, 1.5 million objects
- Level 4, 20 million objects

You've heard about it at our last month's meeting. Now you can have your own copy at 20% discount This offer is available to club members for a limited time. See the club Treasurer for details.

From The Observatory

by Bernard Friberg

OPEN HOUSE - Saturday, April 22 - Peach Mountain

Time frame - Early afternoon

It was a dreary and cloudy day, and the prospects for a clear evening seemed rather dim. The forecast from Friday evening was not good, the forecast from Saturday paper was not good. The only hope was a window that was coming, but it probably would miss us. The decision was made to hold the event, another forecast seemed a little more promising. We almost always have visitors even with overcast and cloudy conditions.

Time frame - later that evening at Peach Mountain.

As twilight approached the clouds started to thin, and this trend continued as darkness approached. The seeing was good but not great. Mars is always an interesting object. Other objects viewed that evening include globular clusters, open clusters and galaxies. The attendance is estimated at 100, a number that we can easily accommodate.

OPEN HOUSE - Friday, April 28 - Leslie Science Center

The window to the heavens moved to the northeast, not east and even a small corner was not in sight, the event ended early.

OPEN HOUSE - Saturday, April 29 - Peach Mountain

A cloudy evening, but visitors were expected, and several did show up. Work continued on the coupling of the 24" to a computer by club members. Success was achieved.

COMPUTER SUBGROUP MEETING - Monday, May 1 - Peach Mountain

This sight was selected to demonstrate the coupling of the 24" telescope to a computer with an astronomy program. It was cloudy, so the alignment was not very precise at best. The star chart and pointer indicator on the monitor moves when the pointing of the telescope changes, the desired result and the expected result, but a lot of things have to be working right for this to happen. Additional tests were performed with the slew motor and star field greatly enlarged to demonstrate the sensitivity. A training session was held on the 24" and the NGC-Max.

ROUTINE MAINTENANCE

All the tracking and slew gears on the 24" have been greased.

OPEN HOUSE - Saturday, May 6 - Peach Mountain

Guests were waiting at the gate when I arrived, an hour before sunset. There were a steady trickle of guests throughout the evening, and at times there were maybe 30 of us. The total attendance is estimated at 50. It was a beautiful evening, no bugs and a reasonably clear and steady sky. Many stayed for a very long time, they were obviously enjoying themselves. Some were just relaxing after a hard week. The moon, one day away from first quarter, is always a spectacular sight, and always of prime interest. Mars is requested periodically throughout the evening. It is receding at a very fast rate and is about 110 million miles away. The middle of the month it will be about 120 million miles, and at the end of the month it will be 130 million miles away. The size therefore is only about half of what it used to be earlier this year. Globular clusters, open clusters and a galaxy were also examined.

OPEN HOUSE - Saturday, May 6 - Leslie Science Center (Second hand verbal report)

Many guests attended this open house, estimated at 100. The clubs advertising emphasized this function, not the Peach Mountain open house. Lots of families, kids, enthusiasm etc. About 10 telescopes were setup by club members and guests. Many objects were seen.

MEMBERS OBSERVING DATES REMINDER:

The selected dates for the Peach Mountain observatory, open for club members and guests, to use the 24", the Cave telescope, the 80 mm refractor, and other telescope members may bring are as follows:

Tuesday, May 23, and Friday, May 26.

Jovian Auroral Spectrograph Rocket Launch Results

by Mark Vincent

Well folks, now that I'm giving this talk, it's time to dust off those old rocket scientist jokes! You know: How many rocket scientists does it take to... You don't have to be a rocket scientist to... ..but it helps. And of course, rocket scientist pick-up lines never to be used at the Brown Jug. Be bold and write your favorite(s) on the chalkboard or just tell them out loud before my talk. Either way, the top ten list will be in the June newsletter.

I know it is short but, I hope it gets a few responses.

Save Thoes Old REFLECTIONS !

Any club members wishing to donate older copies of REFLECTIONS newsletters for the club's archives please forward copies to the Newsletter Editor. We need copies of the following: 1994 - Jan, Feb, Sept, Nov. 1993 - May, Oct, Dec. 1991 - May. 1990 - Nov to Big Bang.

Lake Hudson Observing Dates

Here is are the dates the Astronomical Society of Lenawee and Hillsdale Counties have established for summer/fall viewing at Lake Hudson State Recreation Area in Clayton, Michigan.

May 27th, June 17th, July 22nd, August 19th, September 23rd, and October 21st.

The site is just over an hour car drive from Ann Arbor and is located west of Adrian and south of Jackson. All dates are for a Saturday night and will be observing at the picnic area. Wes Boyd, representing the Astronomical Societies of Hillsdale and Lenawee Counties, can be contacted at (517) 547-7402 evenings, or (517) 448-2611 days for further information.

Wes reminds us of other additional observing dates to circle on our calender:

- SMURFS will be held in Hillman MI, and is tentatively scheduled for July 27 - 30 and is sponsored by the Genessee Club.

- STARFEST will occur on August 25 27 in Lake Forest, Ontario (north of Toronto). This is reported to be the biggest star party in Canada and is approximately the same drive as Astrofest.

- ASTROFEST in Kanakakee, IL is scheduled for September 15 - 17. Due to registration changes by the sponsor no gate registrations will be accepted this year. You must preregister by mail. Registration packets are expected to be available by July. Look for the notice in *Astronomy* and *Sky & Telescope's* Calendar of Events sections for information.

[Thanks for the information Wes. Hope to see you out at Lake Hudson - Ed]

Messier Marathon 94

by Jeff Buchanan

Last night (March 11, 1994) I went back to Roan Mountain, TN, for my first Messier Marathon. It was certainly a night for memories. So far my #2 best night of all. Conditions were near perfect. The wind was calm to non-existent and the sky was perfectly clear. Some near ground moisture was noticeable, but not too much a factor in observing. The temperature ranged from about 35F to 20F during the night. I got a late start because of my daughter's birthday party, arriving at the mountain top about 8:30 p.m.

Preparation. To prepare, I took several items, although I really did not take enough time to consider everything:

- * 10" Starfinder Newtonian w/6X35 finder
- * 10X50 Binoculars
- * Telrad
- * garden tractor battery and r.a. inverter for the Starfinder equatorial mount.
- * Wil Tirion Star Atlas 2000
- * March 1994 Astronomy magazine with the article on the Messier Marathon
- * some cameras (which I didn't have time to use)
- * a quart of gatorade
- * a large bag of M&Ms (no similarity to Messier Marathon intended)
- * small flashlight with the bulb spray-painted red
- * Eyepieces: 9mm, 12mm, and 25mm Modified Achromat with eyecups
- * Lumicon DS and UHC filters
- * My personal astronomy observing log book
- * Ink pens
- * Long underwear top and bottom
- * My astronomy coat (it has big pockets on the outside for flashlights, etc., and it is WARM)
- * 2 meter amateur handheld radio (In case of an emergency)
- * ski mittens
- * ski mask with single large opening for eyes and nose
- * Observing chair for low angle viewing
- * full tank of gasoline in the car

With all of this stuff I thought it would be enough. Nope. A couple of things were

overlooked. 1. My feet got cold. (Should have doubled my socks.) 2. My car has an electronic fluorescent instrumentation display that always lights up when the ignition is activated. I should have planned to cover the display with a towel. It was quite bright and annoying when I started the car to warm up. I left the car running for maybe an hour or two of the night to keep warm and take short breaks. I improvised by placing a book in front of the panel, covering 3/4 of it. 3. The red flashlight's batteries died about half-way through the night and I took some others out of a camera flash to replace them. Next time I'll make a note to bring spare flashlight batteries, and spare batteries for the Telrad.

Setting Up. From my location near Bristol, Tennessee, I drove to Elizabethton and on to Roan Mountain (the town). The peak of Roan Mountain is about 15 miles from the town, and it takes about 30 minutes to get there because of the curves and steep incline. The altitude is over 5000 ft at the top. After arriving at the top of the mountain, I unloaded the equatorial mount, set the counter-weight, and attached/balanced the optical tube. Then I set up my chair, battery and r.a. drive (I place the star atlas on the hood of my car and use the hood as a desk for writing and looking at star charts books/magazines. The car is a 1981 Lincoln Town Car, which has a nice large flat, level hood. Works nice.) Then I performed a 'close enough' polar alignment, placed the Astronomy magazine's marathon map/list above the Tirion atlas and started down the list.

The Routine. Being new at this, there was a lot of learning involved for me. To view an object, I looked up the constellation, ra/dec coordinates and found it on the star map and the Astronomy Magazine Messier map. Then using the binoculars I tried to locate the object or surrounding stars. Then, using the Telrad, I oriented the scope to the location indicated on the map and viewed in the binoculars. This worked well in cases where objects were isolated (not Virgo/Coma Ber) and they were fairly bright. If that didn't work, I used the setting circles to get me close, and then searched for the object or something familiar as compared to the star chart. (This is all old hat to most of you, but to me, it's all new.) The binocular/Telrad method was the fastest. This

night, if I saw the object with binoculars, I also located it with the telescope. This took more time, and tended to make me rushed for time. Next time, I'll not bother locating the binocular objects again

with the telescope unless I have time. Every bit of time was used for something. I spent only an hour of the night period in rest time or breaks, and ended up rushing through many of the objects.

Getting Started. The first several Messier objects were easy to locate such as M42 and M43 in Orion, and M45 (Pleiades) but soon more challenging objects came up. Unfortunately, where I set up the telescope, a tree was directly in the path of several low sky objects. If I had arrived earlier, and taken time to

check the list I think I would have located the scope in a better place for those objects. My binoculars came to the rescue. M31 was an easy binocular object, although I could not discern M32 or M110 with the binoculars. Another object was already over my western horizon (due to the late start), but after the initial loss of a few objects the remaining ones were within view.

Chronology Using the Astronomy magazine list, I proceeded from Andromeda to Lepus, Cassiopeia and Pisces. Then Taurus, Orion, Monoceros and Puppis. It helps to learn the constellations. I've been working on that since last summer. Maybe half of them I can identify. Some of them I've never really concentrated on before the marathon, and most of the objects I had never observed before. Then I turned to Cancer, Ursa Major and Leo. It was about 12:15 a.m. by now, and I decided to take a break. I drank some Gatorade and ate most of the M&Ms. Next was Virgo. Astronomy called it the marathon's "Heartbreak Hill" and the "Realm of Galaxies". It was a struggle, making sure that what I was viewing was M84, for instance, instead of M86 or some other object. The setting circles didn't help much here, I finally had to locate a few objects/stars as reference points and then move the scope in the right directions per the star map. This took quite some time, and I didn't finish until about 2:30 a.m. I had only viewed the objects in Virgo/Coma Berenices once before about a month ago. A wider view in the

telescope would have helped.

After a 15 minute rest, then came Ophiuchus, Scorpius and Sagittarius. While waiting for the more southern parts of Sagittarius to become visible, I took care of Lyra, Cygnus, Vulpecula and Sagitta. Then the remainder of Sagittarius and Pegasus. The last few objects gave me a lot of trouble in Aquarius and Capricornus. I hadn't observed those objects before, and just couldn't discern them in the low angle and growing dawn light. Thinking back, and having now seen pictures of some of the objects, I think I saw M73, but didn't recognize it at the time. I also used the Lumicon UHC filter some in the early dawn time, and it seemed to improve the contrast in the early dawn light. The last object I saw was M2 at 5:43 a.m. Dawn light finally corrupted the night.

It took quite a while for the sun to finally rise. I left long before sunrise. It took less than 10 minutes to repack everything in the car and head back down the mountain. I was really sleepy. About 40 minutes down the road (near Hampton), I stopped and took a 15 minute rest on the side of the road. It was a struggle to stay awake, but I made it home not long after the sun had risen over the hill behind our house.

The Equipment The 6X35 finder that comes standard on the Meade Starfinder isn't adequate. Several times I could find objects with the binoculars that I couldn't get with the 6X35 finder. A 9X50 right angle finder is on my Christmas list. The Wil Tirion Star Atlas 2000 suited the hunt just fine - no complaints. I used the 25mm Modified Achromat eyepiece with the Starfinder for the entire night. I think next time, I would like to use a 40mm or wide view 25mm eyepiece - especially in Virgo/Coma Berenices. I needed to see more in the view to locate the objects.

The 10" aperture (f/4.5) was excellent. This night, the optics and sky combined for some truly incredible views. The globulars showed the tiny pin point stars clear, bright and separated, and even the dimmer objects were clearly discernible. I don't see how the optics could be better. The Starfinder telescope optical tube fits in my car trunk and the GEM

fits in the back seat (although somewhat awkwardly.)

My eyes began to water (involuntarily probably due to viewing strain) during the Virgo searches and the eye moisture tended to frost up the eyepiece. Several times I had to clean the frost from the telescope and binocular eyepieces. The mirrors never had any frost problems, although it was quite damp the whole night. Frost was on the car, on me, the telescope and on everything else outside. At one time, the telescope tube was quite wet and eventually turned to frost, but the mirrors stayed clear, as well as the Telrad (which I can't understand why it didn't frost up).

Wrap-up and Other Thoughts A total of 102 Messier Objects were observed during the night. The following objects were not recorded in my logbook as viewed:

M110, M32 - I viewed M31 with binoculars, and could not resolve M110 or M32. A tree was in the way of the telescope or I could have gotten these too.

M77 - it fell behind a hill to the southwest before I got to it in the list.

M35 - skipped it by accident - ironic - it's one of my favorite objects.

M102 - wasn't clear what it was I was looking for.

M72 - not sure - after seeing a picture of it, I think I did view it, but I didn't log it.

M73 - too low in the sky near dawn.

M30 - too low in the sky near dawn.

There were about 4 or 5 visitors (cars) to the mountain peak that night. They seemed to have nothing to do but drive up there and turn around and drive back down. It was a struggle to keep dark vision with car headlights pointing all around. The people probably thought I was rude by covering my face, but I didn't know what else to do. One guy asked me what I was looking at. Seemed like a stupid question. What else is a guy on a mountain top with a telescope in the middle of the night looking at? 'Stars and galaxies', I answered, hoping he would either turn off his headlights and stay, or leave soon so my dark vision didn't also

leave. 'It's a great night for viewing them', I said. He left.

At about 1:00 am I heard something down the mountain side make a loud coughing sound, and I was scared for about two minutes and then forgot about it. That night, (Orion) M42's nebulosity was more extensive than I had seen before, extending beyond the eyepiece field of view. Likewise, M43 showed its nebulosity more than usual. Andromeda's M31 was also extra bright and an amazing sight (even in binoculars).

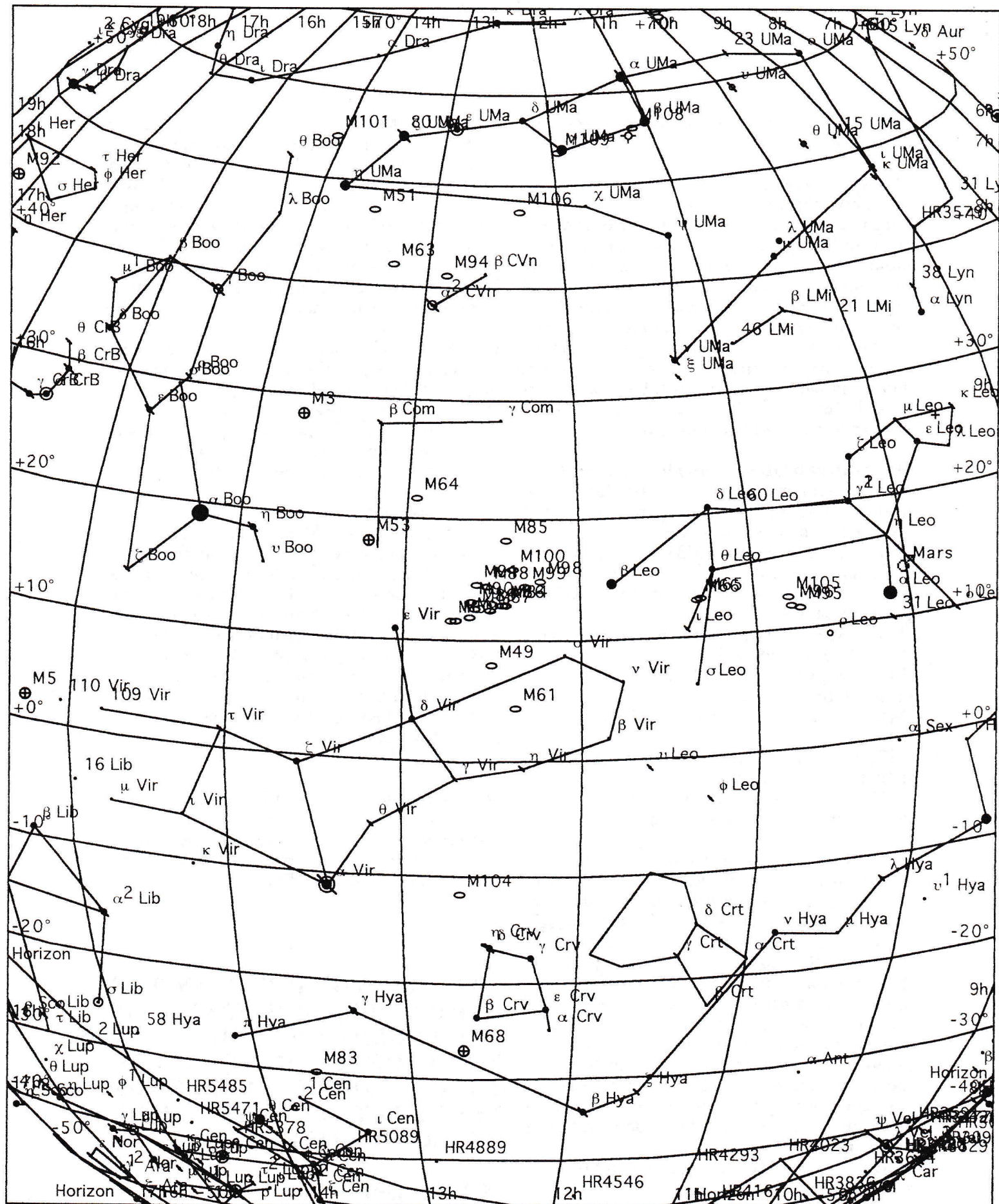
I spent a few moments observing Jupiter, getting only quick glimpses of the surface to the extent that I wondered if I was imagining the color bands or really seeing them. I was a disappointed that I didn't see Jupiter better, since the atmosphere did not appear to be moving very much on other objects.

The neatest part of the marathon was the view of the Sagittarius Milky Way star field. Conditions were good and the star field was bright. When the Milky Way arose over the eastern horizon, it brightened up my surroundings (the observing site) notably. Some of the objects in Sagittarius were exciting that I hadn't seen. I wanted to just look at it all and enjoy it, but no time. Time for that later. Hope I didn't bore you with all of this. I had a great time. Wish someone else was there with me. I welcome any comments. Happy observing! - Jeff

[I think anyone who reads this article will feel like they are standing there with the author sharing the scope. Jeff observes from Bristol, Tennessee and can be contacted at Internet: JBuchanan@aol.com - Ed]

“WE ARE VOYAGERS ON THE EARTH THROUGH SPACE, AS PASSENGERS ON A SHIP, AND MANY OF US HAVE NEVER THOUGHT OF ANY PART OF THE VESSEL BUT THE CABIN WHERE WE ARE QUARTERED.”

S. P. Langley



Viewed from:	Local Time:	Field of View: 90° 00' 00"	Stars: 4.5 3.5 2.5 1.5 0.5 -0.5	Deep Sk
Detroit	21:00:00	R.A.(2000.0): 12h 26m 12.0s	Single:	Open Glob
83° 06' 00" W	1995/05/19	Dec.(2000.0): +12° 57' 00"	Multiple:	⊙ ⊕
42° 13' 00" N	JD 2449857.54	Spherical projection	Variable:	○ ○ ⊖ ⊕ ⊙ ⊕

Places:

Dennison Hall, also known as The University of Michigan's Physics and Astronomy building, is the site of the monthly meeting of the University Lowbrow Astronomers. It is found in Ann Arbor on Church Street about one block north of south University avenue. The meeting is held in room 807.

Peach Mountain Observatory is the home of The University of Michigan's 25 meter radio telescope as well as the University's McMath 24 inch telescope which is maintained by the Lowbrows. The observatory is located northwest of Dexter. The entrance is on North Territorial Road, 1.1 miles west of Dexter-Pickney Road. A small maize-and-blue sign marks the gate. Follow the gravel road one mile to a parking area near the radio telescopes. Walk along the path between the two fenced in areas (about 300 feet) to reach the McMath telescope building.

Times:

Monthly meetings of the Lowbrows are held on the 3rd Friday of each month at 7:30 PM in 807 Dennison Hall. During the summer months, and when weather permits, a club observing session at Peach Mountain will follow the meeting.

Computer subgroup meetings are held on the first of each month, rotating among member's houses. See the calendar on the cover page for the location of next meeting.

Public Open House/Star Parties are held on the Saturday before and after each new Moon at the Peach Mountain Observatory. Star Parties are canceled if the sky is cloudy at sunset or the temperature is below 10 degrees F. Call 480-4514 for a recorded message on the afternoon of a scheduled Star Party to check on the status. Many members bring their telescopes and visitors are welcome to do likewise. Peach Mountain is home to millions of hungry mosquitos - bring insect repellent, and it does get cold at night so dress warmly!

Dues:

Membership dues in the University Lowbrow Astronomers are \$20 per year for individuals or families, and \$12 per year for students. This entitles you to the monthly REFLECTIONS newsletter and the use of the 24" McMath telescope (after some training). Dues can be

paid to the club treasurer Doug Scobel either at the monthly meeting or by mail at:

Doug Scobel
1426 Wedgewood Drive
Saline, MI 48176

Magazines:

Members of the University Lowbrow Astronomers can get a discount on these magazine subscriptions:

Sky and Telescope: \$20 / year

Astronomy: \$18 / year

Odyssey: \$16.95 / year

For more information contact the club Treasurer.

Monthly Sky Map:

The sky map in this issue of REFLECTIONS was produced using a demo version of SkyChart 2000.0 version 2.1, an astronomy/space flight simulator for Macintosh computers.

Newsletter Contributions:

Members and (non-members) are encouraged to write about any astronomy related topic of interest. Call the Newsletter Editor Chris Sarnecki at 426-5772 or e-mail to chrisandi@aol.com to discuss length and format. Announcements and articles are due by the first Friday of each month. Articles should be mailed to:

Christopher Sarnecki
4835 Holly Way
Ann Arbor, MI 48103

Telephone Numbers

President:	Bill Razgunas	995-0934
Vice Pres:	Mark Cray	283-1235
	DC Moons	254-9439
	Tom Pettit	878-0438
	Tom Ryan	662-4188
	Randy Stevenson	429-5099
Treasurer:	Doug Scobel	429-4954
Observatory		
Director:	Bernard Friberg	761-1875
Newsletter:	Chris Sarnecki	426-5227
Peach Mtn		
Keyholder:	Fred Schebor	426-2363

MONTHLY MEETING:

Mark Vincent
on
**“Jovian Auroral
Spectrographic
Launch Results”**

May 19, 1995 at 7:30 pm
in
Dennison Hall Room 807



Shhh ! - It's M51, mag 8.9, 13 29.9 ra - +47 12 dec
More about the secrecy in this issue of REFLECTIONS

University Lowbrow Astronomers
1740 David Ct.
Ann Arbor, MI 48105

Check your membership expiration date on the mailing label !