Gemini

a publication of the Minnesota Astronomical Society

http://www.mnastro.org

JUNE 2001 | volume 26 | number 3

Astronomy Day

Mike Kibat

The Minnesota Astronomical Society and its Onan Observatory reached another milestone this month when the observatory hosted its first Astronomy Day celebration on Saturday, April 28th.

Though windy, the weather was generally good, providing the estimated 150 visitors many opportunities to view sunspots, the Moon, Saturn, Jupiter and other objects. Members of the Society provided over a dozen portable telescopes for public use. The observatory's permanent instrument — the 16" Larson telescope — worked non-stop from sunset until 10:00, providing visitors with sharply detailed images of the lunar surface. At times, as many as 20 people waited patiently in line for a view through the Larson telescope, with many visitors returning for second and third views throughout the night.

In addition, visitors enjoyed viewing artificial satellites passing overhead and interacting with a scale model of the solar system using everyday objects (basketballs and marbles, for example). Members of the Minnesota Astronomical Society gave a slide presentation that provided visitors a whirlwind tour of the universe. Throughout the event, real-time audio from the Space Shuttle and International Space Station was supplemented by a computer-generated ground track display of their orbit.

Retailers Radio City (Mounds View) and The Telescope Shoppe (Eagan) provided free educational materials for distribution. In addition to free copies of Sky & Telescope magazine, the Telescope Shoppe distributed free astronomical toys to families in attendance, and also demonstrated a state of the art, fully computerized amateur telescope.

Construction activities for the month of April were limited to preparing "baby bear" for installation of its cabinets and other fixtures, and generally preparing the facility for Astronomy Day activities.

The Larson telescope is now fully restored, sporting a fresh coat of white paint. With the installation of the drive electronics, all current telescope objectives are now met, and the telescope is fully operational.

Park Stickers

Mike Kibat

Carver County park stickers have never been required when MAS events or work parties take place at Baylor.

However, I would encourage everyone to consider purchasing an annual Carver County park sticker if you are a regular attendee of MAS events at Baylor, including Onan Observatory work parties. Not only does it avoid receiving a "warning ticket" if the sheriff is checking stickers on a given day, but it also helps support the maintenance and improvement of all the county parks, including Baylor. Plus you get unlimited access to the entire Carver County park system whether for fishing, camping, picnicking or just hanging out.

Again, stickers are optional, but what a great way to say "thank you" to the park system for its support of the MAS!

For those interested in purchasing an annual park sticker for Baylor:

"Annual Park Permits (stickers) can be purchased by sending a check to Carver County Parks, 10775 County Road 33, Norwood Young America, MN 55397. The cost for the Annual Permit is $16. Permits are also available at the Park Office at Baylor Park, the Carver County Government Center located at 600 4th St. in Chaska, through the honor box systems and gate houses when staffed at both Baylor and Lake Minnewashta Regional Parks. Lake Minnewashta Regional Park is located in Chanhassen off of Hwy. 41 between Hwy. 5 and Hwy 7 ."

Gemini

Editor
Thor Olson
Circulation
John Treadwell

Gemini is published six times annually—in February, April, June, August, October, and December—by the Minnesota Astronomical Society. Electronic submissions for Gemini may be sent to:

thor.olson@efi.com

Hardcopy items should be sent to:

MAS Gemini
P.O. Box 583011
Minneapolis, MN 55458-3011

Send all MAS membership dues, change of address cards, subscriptions, and renewals to the current MAS treasurer.

Subscriptions alone cost $4.50 annually for members of astronomy clubs or $9.00 for other persons. Materials for Gemini are due on the 10th of the month preceding the month of publication.

Now Showing!

Compiled by Ron Schmit

Minneapolis Planetarium: 612-630-6150

Cost for most shows: $4.50 for adults, $3.00 for kids 12 and under.

June 16 - Sept. 2, 2001:

WILD & WACKY UNIVERSE
Daily at 2:15pm
Thursdays at 7:00pm

WISH UPON A STAR
Monday - Friday at 11:00am & 1:00pm
Sat & Sun at 1:00pm
A portion of all admission sales to this show benefits the Planetarium'sWish-Upon-A-Star Grant Program, which provides astronomy education assistance to area schools with a high percentage of students in free & reduced school lunch program

Eisenhower Observatory: 952-988-4077

Come view the night sky through a powerful telescope on top of the Eisenhower Community Center in Hopkins, MN. Viewing time varies throughout the month and is open to the general public. There is no charge, although a $2.00 donation is requested. Space is limited, so call Diane for reservations: 612-988-4077.

University of Minnesota:

Observing from the telescope on top of the Physics building, East Bank. Open to the general public. Fridays during the school year: **612-626-0034** for more info.

MAS Star Parties:

The Minnesota Astronomical Society hosts star parties, open to the general public. Come on out, get a look through a telescope, enjoy the view. Call **651-649-4861** for more info or log-on to the web at http://www.mnastro.org.

Patron Members

MAS offers a patron membership to anyone who wants to help support our activities by paying a slightly higher annual membership fee ($40 instead of the regular $16). We would like to thank the following patron members who helped support MAS this year:

Gregory J. Baril
James A. Bowditch
Herman A. Bradley
Richard A. Brown
Albert and Dona Champlain
Michael C. Conley
Chris Cowen
W. Michael Garner
Jon A. Geiss
William H. Glass
Victor H. Heiner
Dennis R. Johnson
Michael T. Kauper
Aris Kekedjian
Michael E. Kibat
David Kleinendorst
Michael W. Lavely
John R. LeVasseur
Joseph P. Luhman
Gerald L. McDougal, Jr.
Beverly D. Miller
Jim Russell
Warren Sampson
James L. Schenz
Paul A. Schroeder
Timothy A. Sinks
Charles R. Smith

MAS Officers

President: Ben Huset
952-892-3625
benhuset@skypoint.com

Vice President: Dave Olmstead
612-559-5940
david@davidolmstead.com

Secretary: Sam Hunt
651-748-1588
samhunt@worldnet.att.net

Treasurer: Chuck Jorgensen
612-332-1140
jorg0140@tc.umn.edu

Board Member: John Treadwell
651-645-7581(H) 612-624-4007 (W)
j-trea@maroon.tc.umn.edu

Board Member: John Connery
612-544-5786
jmcon@mninter.net

AAVSO

Paul Wright

American Association of Variable Star Observers 90th Spring Meeting at Madison, WI

For those of you who are not familiar with the AAVSO, this organization was founded in 1911 as a repository of **variable star observations**. The data is gathered on all manner of stars including long period Mira, eclipsing binaries, cataclysmic (novae), and gamma ray bursters (GRB) as well as many other types of stars. The organization serves the amateur observer by providing **star comparison charts** and as well as **on-line light curves** to compare ones observations with other observers. The AAVSO serves the professional astronomer by providing light curve data that is used to correlate with spectroscopic, photometric, and polarimetric data. The data is also used by professionals to target Infrared, Ultraviolet and X-Ray satellites to gather data during unusual stellar activity. The AAVSO archives contain over 10 million observations on over 5000 stars. About 600 observers all over the world submit about 350,000 observations per year.

The opening session, on May 4, was billed as a workshop to learn how to use software to do modeling of gas flows in Algol-type Eclipsing Binary variable stars. The workshop began as a general discussion of the morphology and evolution of close binary systems and was followed by a discussion of the nature of light and velocity curves of eclipsing binaries. The session was conducted by Dr. Dirk Terrell of the Southwest Research Institute in Boulder, CO. The workshop started at 9:00 AM and went to 3:00 PM and was very informative. Unfortunately for those who had brought their lap tops so they could learn how to use the Wilson-Devinney software which was described as "user-antagonistic", Dr. Terrell ran out of time before he could get into describing how to use the software. The overhead slides from Dr. Terrell's talk can be viewed at www.boulder.swri.edu/~terrell.

Friday evening was spent riding about an hour on the bus to Williams Bay, the site of the Yerkes Observatory. After a binge of buying astronomical objects at the observatory shop, we took a tour of the 40" Refractor which is 104 years old this year. The tour was conducted by Dr. Cudworth who will assume the role of Observatory Director next month. The observatory is open during the day on Saturday, but is generally not open to the public at night. We nearly got an opportunity to take a look through the world's largest refractor, but the moon was darting amongst the clouds, so we missed our opportunity. We had a nice beer and brat cookout under the gargoyles of the dome.

On Saturday, after a short business meeting, the Committee Chairs of CCD, Photoelectric Photometry, Eclipsing Binary, Nova Search, RR Lyrae, Solar, and Supernova Search presented reports on the activities of their committees during the past year.

The rest of the day scientific papers were presented by members and professional astronomers on various variable star topics. The general theme of the professional presenters was to recruit amateurs to provide data for their research topics.

Among the highlights, Arne Hendren of the US Naval Observatory in Flagstaff, AZ described how he made the initial visual confirmation of the Gamma Ray Burster GRB010222 with the USNO 1 meter scope. He was awakened at 2 AM by a phone call from Italy based upon X-Ray satellite data on the GRB about an hour after closing the observatory. His optical confirmation was only 4 hours after the arrival of the satellite data.

John Good from Cal Tech presented information on the proposed National Virtual Observatory which is planned to contain all astronomical objects now in existence and in the future at all wavelengths. A meeting was planned with the AAVSO to determine how variable star data can be included in the National Virtual Observatory, data which will be available to amateurs as well as professionals.

The star SS Cyg is a dwarf novae that normally is about 12th magnitude, but every 40-60 days the star climbs to 8.3 in a day and remains bright for a few hours and then more slowly declines. During the few hours of peak magnitude, the star is active in the region of hard and medium X-Rays. An investigator on the Chandra X-Ray satellite wanted to target the star with the high and low energy transmission gratings on the satellite during the peak magnitude, but the star delayed the outburst. The diligence of the amateurs was rewarded when the star began to climb around Christmas time and the satellite was able to get good X-Ray data. Since the time of outburst was not known ahead of time, the data would not have been collected if amateurs did not provide the alert at the critical time of outburst.

The meeting was my first face to face meeting with members of the AAVSO. The requests by the professionals for amateur AAVSO members to contribute data for their projects was enthusiastically received. The opportunity of contributing useful data for astronomical research is one of the reasons for the enthusiasm of the attendees at the 90th Spring Meeting of the AAVSO. If you would like to learn more about the organization, I would suggest that you visit their fine web site www.aavso.org.

Paul Wright

Messier Marathon 2001

Greg Haubrich

The Minnesota Astronomical Society's Messier Marathon 2001

March 23, 2001, The MAS' Cherry Grove Observing Site:

The 20 degree temperature and 15 mph wind with 30 mph gusts combined with the foot-deep snow would normally put the damper on any observing session. As I counted down the last few miles to Cherry Grove just before sunset, I began to wonder if I might be running the Messier Marathon alone. No one in their right mind would be there - - right?

However, upon arrival I came to realize that I was not the only one afflicted with "Messier Madness". This was not just any Star Party, this was the annual MAS Messier Marathon. A once a year shot for bagging the maximum number (109) of Messier objects visible in one night from from our lattitude.

The Messier Marathon is always open to all skill levels and offers a great chance to develop, or refresh, star-hopping observing skills. Some observers took the opportunity to view as many Messier Objects with Digital Setting Circles. To most, it was also a jump-start on the upcoming observing season after a winter's worth of astro-hibernation.

The evening started out for participants by shoveling out about a five foot radius of 1 foot deep damp snow to make a stable base for equipment that had to be hauled in by foot from the road. For the 15 participants, the clear skies, almost certain lack of fog, and the only "weekend" day of the year in Central Minnesota that the clouds, fog, sun, moon all cooperated for a chance of seeing 109 Messier Objects, were enough to overcome these normally opressive obstacles.

The marathon can be broken down into at least five phases:

1) The "Post Sunset Crunch": The hectic observing pace for several Messier Objects that are within 15 degrees of the darkening horizon. The pine trees to the west at Cherry Grove caused portable scopes to be temporarily relocated to try and grab M74. You need to grab about one object every 8 minutes here to stay ahead. We start looking prior to astronomical twilight to get a head start.

2) The "Relaxed Viewing Phase": Once early setters are gone (and hopefully observed) the pace can slow somewhat. This is the perfect time for public outreach and straying to the planets, etc. for a quick view. The observation rate can slow to 10-12 minutes per object.

3) The "Galaxy Gauntlet": Between 10:30PM and Midnight the infamous Virgo Cluster issues its challenge. If you practiced and have a good chart, this is a 30 minute cruise to star-hop through. If you did not practice, you better have a well functioning DSS and good charts (there can be five or more galaxies in one field-of-view that you have to be able to identify). Once you make it through this one, it's time for a well deserved break. You feel good and know you can finish (at least if you can still feel your toes!)

4) The "Wait, Nap or Catch-up Phase": After a few more "early summertime" M objects, You have cleared the sky and are waiting for Sagittarius to rise. Naps or thawing out in the warming house and the sharing of stories can last up to an hour (or allow you to catch-up in my case!)

5) The "Pre Sunrise Crunch": You race against time to pull out very low altitude Messier objects in Sagittarius and the late summer constellations. This phase is all the more hectic due to fatigue, hunger and cold. It seems like the most difficult phase. It pays to have drawings / pictures of the M objects to identify them. As you reach for your sunglasses, you realize the Messier Marathon is done for this year!

Observing conditions during the Marathon started out as a slightly hazy toward the horizon, but cleared fairly nicely by midnight. The atmosphere was fairly steady with the "Eyes" of M97, the Owl Nebula, being glimpsed and the spiral structure and "connecting bridge of M51, the Whirlpool Galaxy, being clearly seen. Even M81 and M82 showed hints of their spiral and mottled irregular structures respectively. The dust lane of M104 leapt out at you. Views of Jupiter and Saturn looked surprisingly steady and clear as they approached the horizon.

Some interesting and somewhat unexpected complications due to the cold and snow: spontaneous "snow angels" were performed by a few participants (after they slipped and fell - - luckily no one was hurt); an 1 / 8 layer of frost from my breath was caked to the side of my big 2" Nagler eyepiece by morning; a few tables and chairs had to be chiseled out of the frozen snow the next morning. Also, I had a wee bit of frost bite on the surface of my nose that occasionally touched the cold metallic side of that big 31 mm Nagler eyepiece (I believe that this calls for a new eyepiece specification called "Nose-Relief"!). The 20 mph wind prevented fog from forming and quickly cleared eyepiece fogging (but at what a price!). All in all, these were only minor inconveniences that were considered humorous.

Of the 15 Messier Marathon Participants, 5 stayed through until dawn. These die-hards were Tim Parson, Martina Parson, Don Gazdik, Cort Sylvester, and myself. The totals for those who listed their total Messier Marathon Count in the log sheet are as follows:

1) Tim Parson: 108 Star-hopping (he had to be pryed off his scope after sunrise as he almost snagged the final M55 in the lightening sky). Tim was winner of first prize: an astronomy book, (all prizes courtesy of Dan Fish, Radio City, Mounds View). Winner third straight year! Will anyone rise to the challenge and beat him next year?!

2) Don Gazdik: 105 Star-hopping (went from 25-30 objects his first marathon to the hundreds in one year! - - This was his second year over 100!)

3) Greg Haubrich: 102 Star-hopping (had a personal goal to break 100 objects). - - Good warm-up for the Texas Star Party!

4) Cort Sylvester: 99 DSS, except for last 35 star-hopping after DSS went down (no detailed charts!)

5) Chris VanKrevelen: 70 DSS, (Team effort with Chris' 7 year old son David!) David kept on reminding Chris to hurry and kept on asking how many he had logged. David did enjoy peeking at the views too.

6) Alan Savage: 14 Star-hopping. (Alan was the winner of an astronomy book from the random participant drawing). (I'll mail the certificate to redeem at Radio City.)

7) Martina Parson: 6 Star-hopping, (Winner of 13 yr. old and under category: An Astronomy Poster). Good job Martina! Winner the second straight year for the 13 and under category!

8) Ben Huset: 2 Star-hopping. (Thanks for stopping by Ben!)

9) A special thank-you to Doug Brown for handling outreach during marathon "crunch times" to off-load the die-hards.

10) To the others that signed in but did not log your totals: Thanks for participating! You were real troopers considering the windchill. We hope to see you again at next year's MAS Messier Marathon (in Hawaii - - ....dream on!).

The excitement and structure of the marathon allowed all levels of observers to improve their knowledge of navigating the night sky and in finding and identifying deep-sky objects quickly. The skills honed during the marathon will improve all your observing sessions. The personal challenge to improve and test one's observing skills during this time constrained event is very intriguing and is the driving force for Marathon participation for many marathoners. We had a blast! I would highly recommend it!

The 5 die-hards agreed in the warming house as the sun rose: In spite of the difficulties and windchill: "(Observing) just doesn't get any better than this!"

- - Greg Haubrich, host of the MAS Messier Marathon 2001, courtesy the Visual Observer's SIG.

Onan Observatory Keys

Mike Kibat

Becoming an Onan Observatory keyholder has two prerequisites. First, complete the observatory training. Second, that you complete one or more annual service requirements from the following list:

Act as host for MAS members visiting the observatory during star parties held at Baylor.

Help with public events at the observatory either as team member or team leader

Participate in observatory construction "work parties"

Participate in quarterly observatory maintenance "work parties" (cleaning, adjusting equipment, taking inventory, etc.)

Be available to non-keyholding MAS members desiring use of the observatory for special projects

Conduct observatory-based educational events for schools, scouts and similar groups

Recruit and train others as observatory keyholders or participants in work parties and events

If you've completed one of more of the above and don't already have a key, drop me a note and I'll see that you receive your key!

Mike Kibat
kibatme@visi.com
952.948.1218 office
952.884.4452 fax
612.328.6450 cell
952.884.0039 home

Texas Star Party 2001

Doug Brown

The Plan

John Marchetti, Greg Haubrich, and I have always said we wanted to go to a big regional star party someday. John has already been to Stellefane and went to the Nebraska star party with Dave Runkle in 1999. Greg and I have never gone anywhere more exotic than Cherry Grove. We all were curious about the Texas Star Party because of its size, its southern latitude, and its reputation for inky black skies. In addition, the McDonald observatory is just a few miles down the road from the star party location, the Prude Ranch in Fort Davis, Texas. The McDonald observatory has an 82 inch and a 107 inch telescope, in addition to the 362 inch Hobby-Ebberly telescope. There are also other smaller research telescopes there, including a radio telescope that is a part of the Very Long Baseline Array that stretches across North America. At the very least, the view from the west Texas mountains would be something very different from Minnesota.

One of the most difficult parts of the trip was planning. We all knew how to pack for a night's viewing at home, but we didn't know exactly what to expect in Texas. For example, what clothes do you bring summer or winter? Do you need rain gear? I'd never go out in Minnesota if I even remotely suspected getting caught in the rain but Texas has different weather than Minnesota. Eventually we decided to bring three scopes and a bunch of binoculars. We would want to see some faint objects, so we needed larger scopes, but we also wanted to sift through the Milky Way with binoculars. We heard people say that the Milky Way was so bright down there that it cast a shadow. One night we found out they were right.

Are we there yet?

Driving to the Texas Star Party takes about 27 hours. We decided to drive straight through, stopping only for gas and food. We left on a Saturday morning, and arrived at Kansas City, Kansas at about dinnertime. You have to take in a little of the local flavor whenever you travel, so we had a little barbecue for dinner. It felt good to unstick our backsides from the van for awhile. It got dark shortly after leaving Kansas City, so everything up until arriving in west Texas was a blurry-eyed memory for me. I got to sleep during the night for a few hours while Greg and John manned the night shift. Finally, morning came and it was my turn to drive. We had been on the road for 24 hours straight and we were now in west Texas.

- We're not in Kansas anymore, Toto

I went to sleep in the Midwest, and woke up in the desert. What a contrast! West Texas is flat and dry. The sky stretches all the way from horizon to horizon in all directions. The desert is dotted with all different varieties of scrubby vegetation, cacti, and oil wells - the kind that pump up and down on rocker arms. The area in the Permian basin around Odessa and Midland is very sensitive to the rises and falls of the energy markets. Oil and gas have been "cheap" in the last few years, and there are many abandoned homes and businesses visible from the highway. We can see the west Texas mountains off in the distance, and in time they get closer to us. Eventually we enter the mountains and climb up vertically about a mile via winding roads. The mountain tops are eroded so that they form tall fingers. The view from the twisty, rolling roads is very dramatic.

After a little under and hour driving in the West Texas mountains, we arrived at our destination Fort Davis. Fort Davis is named after the frontier fort located there. It is historically interesting because it was the site of a black garrison who were called by the local Indians "buffalo soldiers." The town of Fort Davis today is a small place dedicated mostly to tourism and serving the needs of the observatories. It's also a poor place, by our standards. The houses are made of rock or adobe and range in size around 600 square feet. The residential streets are made of dusty crushed rock. The people there are really friendly and are quick to strike up a conversation with strangers. The town has a pretty "laid back" attitude and we find some of the best places to eat in town are the ones that look a little seedy on the outside. We liked "Poco Mexico" best because of its tasty chicken fried steak and fiery hot enchiladas. Maria, the cook there, made up a special batch of sapodillas one day that we all liked very well. Her nephew owns the barbecue place in town. It lists its hours on the outside as "open from 11:00 AM until the meat runs out."

Sunday

We set up at the Prude Ranch on Sunday evening. The Prude Ranch is the place where the Texas Star Party is held, about 4 miles from Fort Davis. It is a real ranch, setup for large events like this one and is located in the West Texas hills, about a mile high in altitude. It has a number of viewing fields all around the ranch. There is a main field where some of the more showy instruments are found. This year, there were two 36" dobs located there. We setup on the middle field, just down from the main field. We liked it because it seemed to be a little quieter, and a bit more protected from the elements. We found out later we guessed right because a series of dust devils (small tornadoes in the desert) attacked a couple of large scopes in the main field. On another field

located away from us, the observers had problems during the day with a buffalo that wouldn't stay in its pen. Next time you gripe about mosquitoes, just remember that we don't have to deal with dust devils or belligerent buffalo.

We ended up being clouded out after only two hours of observing but what a fantastic two hours. We all got to see Omega Centauri for the first time ever! No globular in the sky compares with Omega Centauri it is so bright you can easily see it unaided with your eyes. It's so big that it completely fills a low power eyepiece. It has a three-dimensional look about it that I've never seen with any other globular, including M13.

We saw one other crazy thing we had never seen before: clouds being illuminated from above by starlight. There is no light pollution at all in Fort Davis, so any light you see comes entirely from the stars. The clouds had a sort of light glow, which came from the stars themselves. It was very unusual.

Monday

One of the great experiences we had here was meeting really great people from all over. People from as far away as Australia came to the Texas Star Party this year. This year, there were over seven hundred attendees at TSP. From our own unscientific poll, it seemed that most of the people were from Texas. Many others were from the south, and the remaining fraction were from the Midwest. We only met one other person from Minnesota, Steve Leikind, who is also an MAS member.

We were rained out on Monday night. We packed up our scopes and went back to our motel. Later that night, we found out that Fort Davis is pretty dead after dark. Nothing was open and there are no movie theaters or shopping centers in town or nearby to go to. But I can't tell you how nice it was just to be able to sit outside without being attacked by mosquitoes. We did not see a mosquito all week. The only "pest" we had was a friendly Basset Hound that lived a couple of miles away on another ranch. He would come over to the Prude Ranch and mooch off the crowd at the TSP. A few times he would waddle over to our cooler, knock the top off with his nose and start digging in.

Tuesday

We went to the vendor building Tuesday afternoon. Astro Systems was there. So was Lumicon and Pocono Mountain Optics. Starmaster Telescopes was represented, as well as some other smaller vendors I've never heard of on the Web or in astronomy literature. The vendors all offered prices about 10-25% cheaper than regular retail. Al Nagler himself was there representing Tele-Vue. We spent some time talking to him. I asked him why he never made orthoscopic eyepieces. He said that he owned a set of Zeiss orthos, but that he though he could never make an orthoscopic eyepiece as good as his plossls. On another note, Greg sold one of his kidneys on E-bay earlier this year (just kidding) and bought a 31 mm Nagler. If you've ever seen these eyepieces, they're pretty large. Greg picked one up and showed him how his nose rubbed against the top of this eyepiece, then continued to tell "Uncle Al" how during the freezing cold Messier marathon he hosted at up in Minnesota this year that his nose starting getting frostbitten by the eyepiece. Just for a second, Al looked at Greg, then Al asked Greg if he was going to sue. Greg started to laugh, and Al looked around and told everyone that he was worried that he would have to put in a claim on his business insurance and then he started to laugh. For the record, Al Nagler is a really nice guy, and very patient with his customers (and an avid amateur astronomer in his own right). But if there is ever a warning on Tele-View eyepieces about nose frostbite, we'll now know whom to blame.

Finally, we had a clear night! TSP has a number of viewing lists, and we all decided to do their main list as well as their globular cluster list. They also had a binocular list and a "challenge" list. The challenge list included such things as 19th magnitude quasars, so lacking a direct link to the Hubble, we chose to skip that list (made up, by the way, by an owner of a 36-inch Dobsonian).

The main list consisted of 26 objects from Messier objects, to faint NGC galaxies, to a dark nebula. It turned out that if you connected the objects together on a star chart, you would see an outline of "2001" and a dark nebula to represent the obelisk from the movie "2001: a Space Odyssey." The object I did like from the list was a dark nebula since I had never seen one before.

Wednesday

The whole week at the Prude Ranch, TSP had speakers. We did not go to any of the speakers since we generally got up late. We ate and got up to the ranch about seven o'clock to set up for the night. The sky was dark, but not particularly transparent. John and I worked on a TSP globular list. We looked at a passel of very small, faint globulars. Most of these objects were "Herschel objects" I had never seen before. The southern latitude (around 30 degrees) let us see many southern constellations we had never seen before. I especially loved seeing all of Scorpious tail and all! It is probably the most stunning constellation of all when you see the entire thing!

We also saw Centaurus A, and had a very good look at the North America Nebula in Cygnus.

Speaking of Cygnus, the Veil was absolutely stunning. I have never seen as much detail in Minnesota all filaments were clearly visible. Then, of course, we were clouded out around 2 am.

Thursday

Thursday night, we were clouded out again. We decided to see the Marfa lights. Marfa is a town about 30 miles south of the Prude Ranch. The "Marfa lights" are mysterious lights that seem to appear out of thin air and float over a wide valley outside of Marfa. In the 1950's, the Air Force had a base near there, and dropped sacks of flour over the lights to see if the lights had any substance. Countless expeditions have been set up to determine what the lights really are. Nothing conclusive has been found yet, and yes, we did see the lights. I think it's a lensing effect caused by the air redirecting light from the highway over to viewing areas miles away. We saw similar "floating lights" out at the ranch, and no UFO's came and got us. What was important was that the skies eventually cleared around 3:30 am, and the observing started again. The skies were very transparent and bright. The Milky Way looked like a fluorescent light. Many bright globulars and nebulae were visible with the naked eye.

Friday

We slept in. After getting up in the early afternoon, we moseyed (we're in Texas now) over to our favorite restaurant for a plate of chicken fried steak.

The weather looked pretty bad. We went over to the Prude Ranch to check out the swap meet. This is where participants get to horse trade their stuff with other amateurs (kind of a face-to-face Astromart).

The evening was clouded out. We attended the door prize drawings and got skunked there, too. There is a cantina that serves burgers and hot dogs after dark on the ranch. We each soothed our downed spirits with a barbecue brisket burrito from the cantina.

Saturday

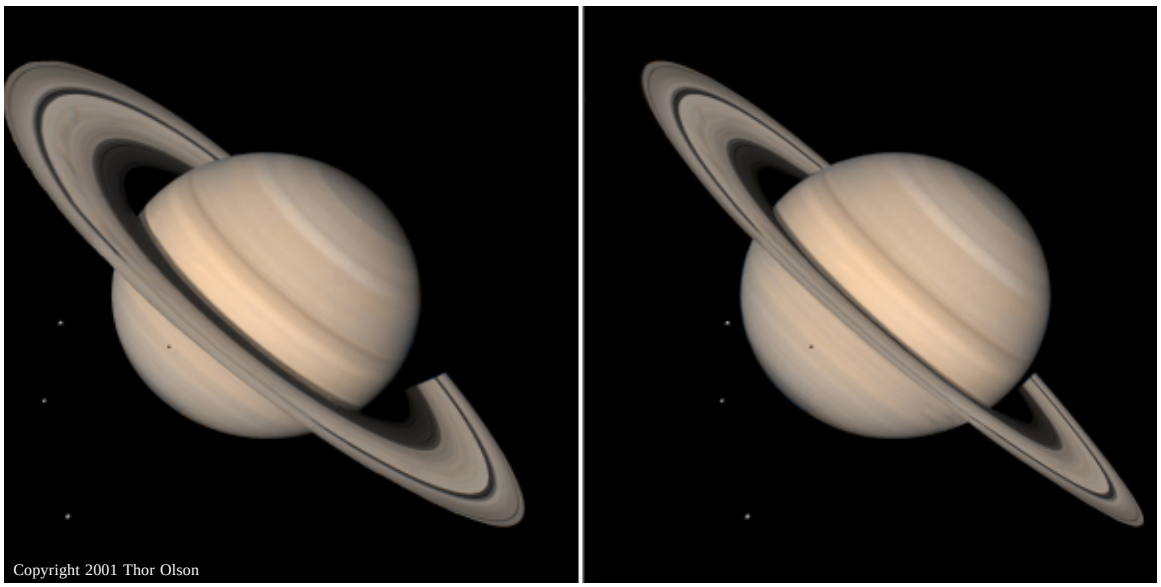
We packed up and said our good-byes. We talked to some people about the Okie-Tex party and thought about it for upcoming years. It's about 500 miles closer than TSP, and the thought of less driving seemed appealing. We were getting ready for the 1400 mile trip back home.

Doug Brown <dbrown@visi.com>

FOR SALE

Meade 8" LX10 deluxe telescope, includes tripod and accessories.

Kim P. Ryan
Tel: 651-736-6182



A sample of the 3D views shown at the May meeting of the MAS. To get the 3D effect you must look at this pair “cross-eyed”. Place your finger a few inches in front of you and centered on the dividing line of this pair. When looking at your finger you’ll see three images of Saturn behind it. Ignore the side pictures and concentrate on the center one, adjusting your focus until it merges into a 3D view. More stereo images of planets and constellations (and illustrated viewing instructions) can be found at www.nightscapes.org.

2001 Star Parties

Star parties are held on Friday if weather permits, otherwise on Saturday. Call (651) 649-4861 after 6:00 PM on a star party date to hear whether it will be held.

Metcalf

Metcalf is the grassy parking lot of Metcalf Nature Center, about 20 miles east of St. Paul along highway 94. About 6 miles E of the 694 / 494 crossing is county road 15 (Manning Ave.). Turn right, then left onto the frontage road and continue east, crossing over county road 71. Turn right (south) onto Indian Trail; follow it 1.1 miles to an chicken-wire gate on the right, (marked by three blue reflectors), opening onto a dirt driveway, which is the entrance to Metcalf.

Baylor Regional Park

Baylor Regional Park is roughly 25 miles W of the SW corner of 494. Head west on highway 5, through Waconia, to Young America. Turn right onto county road 33 and follow it about 2 miles to the park, a right turn. The observing site is through the gate and roughly 100 yards beyond. Card-carrying MAS members may observe at Baylor at any time; call the park keepers in advance at 448-6082.

When visiting Baylor Regional Park, MAS members are requested to NOT park on the grassy areas next to the observatory (or any other grassy areas for that matter). This is a matter of being considerate to the park, its caretakers, and other visitors, so PLEASE PARK in the PARKING AREA.

Annual Park Permits (optional, not required for observing) can be purchased by sending a check to Carver County Parks, 10775 County Road 33, Norwood Young America, MN 55397. The cost for the Annual Permit is $16. Permits are also available at the Park Office at Baylor Park, the Carver County Government Center located at 600 4th St. in Chaska, through the honor box systems and gate houses when staffed at both Baylor and Lake Minnewashta Regional Parks. Lake Minnewashta
Regional Park is located in Chanhassen off of Hwy. 41 between Hwy. 5 and Hwy 7 .

Cherry Grove

Cherry Grove is about 20 miles south of Cannon Falls. Head south on Hwy 52. Around 6 miles south of Cannon Falls, take a right onto Goodhue County 1 and follow it around 16 miles, where it ends in a T with Dodge County A. The observatory and warming house are at your right, nestled in the corner of the T.

Date	Location	Sunset
March 2 or 3	Metcalf	6:02pm
March 16 or 17	Baylor/Onan	6:20pm
March 23 or 24	Cherry Grove	6:29pm
March 30 or 31	Metcalf	6:38pm
April 13 or 14	Baylor/Onan	7:56pm*
April 20 or 21	Cherry Grove	8:06pm*
April 27 or 28	Metcalf	8:14pm*
May 18 or 19	Baylor/Onan	8:39pm*
May 25 or 26	Cherry Grove	8:46pm*
June 1 or 2	Metcalf	8:53am*
June 15 or 16	Baylor/Onan	9:02pm*
June 22 or 23	Cherry Grove	9:04pm*
June 29 or 30	Metcalf	9:04pm*
July 13 or 14th	Baylor/Onan	8:58pm*
July 20 or 21	Cherry Grove	8:53pm*
July 27 or 28	Metcalf	8:45pm*
August 10 or 11	Baylor/Onan	8:27pm*
August 17 or 18	Cherry Grove	8:16pm*
August 24 of 25	Metcalf	8:04pm*
September 7 or 8	Baylor/Onan	7:39pm*
September 14 or 15	Cherry Grove	7:26pm*
September 28 or 29	Metcalf	6:59pm*
October 12 or 13	Baylor/Onan	6:33pm*
October 19 or 20	Cherry Grove	6:21pm*
October 26 or 27	Metcalf	6:10pm*
November 9 or 10	Baylor/Onan	4:50pm
November 16 or 17	Cherry Grove	4:43pm
November 23 or 24	Metcalf	4:37pm
December 7 or 8	Baylor/Onan	4:32pm
December 14 or 15	Cherry Grove	4:32pm
December 21 or 22	Metcalf	4:34pm

* Central Daylight Time

how to pay your dues

Your MAS membership expires at the beginning of the month shown on your Gemini mailing label and your membership card. Send your payments to the MAS treasurer (Chuck Jorgensen) at 1615 E. River Rd. Minneapolis, MN 55414-3627. Make checks payable to MAS. The current annual membership dues and subscription fees are:

Regular membership	***$ 16.00***
Patron membership	***$ 40.00***
Student membership	***$ 10.00***
Subscription to Gemini for members of other astronomy clubs	***$ 4.50***
Subscription to Gemini for other persons	***$ 9.00***

To Renew Your Sky and Telescope Subscription

If you get *Sky and Telescope* at the club's discounted rate, you must renew your subscription through the club. When you get a renewal notice from S&T, send the notice along with a check for the amount indicated on the notice (currently $29.95) to the MAS Treasurer (Chuck Jorgensen) at 1615 E. River Rd. Minneapolis, MN 55414-3627.). Make checks payable to MAS. If desired, you may renew your MAS membership at the same time, and write one check to cover both payments.

To subscribe to the MAS e-mail list send e-mail to:
mas-request@mnastro.org
with the single line
subscribe
in the body (not subject) of the message.

The list has about 40% of the membership on it.

GEMINI

MN ASTRONOMICAL SOCIETY
P.O. Box 583011
Minneapolis, MN 55458-3011

ADDRESS SERVICE REQUESTED

NON-PROFIT
Minneapolis, MN
U.S. POSTAGE
PAID

PERMIT NO. 1407