



The Eyepiece

NEVILLE PUBLIC MUSEUM ASTRONOMICAL SOCIETY

Volume 21, Issue 7

July 2009

July Meeting

Please join us for the July monthly meeting. This month, Dave Junkem will be presenting the main talk. He will be talking about the Mag 1 Portaball, a telescope manufactured by his company.

The meeting will be held from 7:00pm until 9:00pm, July 8th at the Neville Public Museum, 210

Museum Place, Green Bay, WI 54303.

And as always, we will be heading to Happy Joe's for pizza after the meeting. Hope you can join us. ☐



POW

This month's Parmentier Observing Weekend will be held July 17th and 18th.

If there are any astronomical favorites you would like to view through the 30 inch classical Cassegrain telescope, feel free to contact Don DeWitt at ddwitt@tds.net to add your request.

Hope you can make it out and observe with us. ☐

Upcoming Events

July Meeting

- JULY 8TH—PORTABALL TELESCOPES

POW

- JULY 17 AND 18—PARMENTIER OBSERVATORY

Wisconsin Observers Weekend

- JULY 23RD TO 26TH—HARTMAN CREEK STATE PARK

Board Meeting

- JULY 29TH

Wisconsin Observers Weekend

NEWSTAR is hosting the Wisconsin Observers Weekend. Three days of summer camping and observing at Hartman Creek State Park just west of Waupaca, Wisconsin.

Amateur astronomers from all over the mid-west bring along their telescopes for a weekend filled with the fun of helping someone find objects for the first time, as well as the enjoyment of pursuing the challenge of finding new objects for their own enrich-

ment. Whether or not you own a telescope or are a seasoned observer you will enjoy what WOW has to offer.

WOW reserves all five-group campsites at Hartman Creek State Park so that your evening observing environment is white light free and as dark as possible for your enjoyment.

Open registration for the general public and members on or after February 20,

2009 is \$15 per adult and \$3 per child. This fee includes your WOW registration and camping fee. Registration is limited to 130 attendees this year. All registration closes July 8, 2009. Pre-Registration fees are non-refundable after July 3, 2009.

See the official website, <http://www.newstar.org/WOW/>, for more details. ☐

Inside this issue:

EYE IN THE SKY	2
SKY TALK	2
TITAN SHADOW TRANSIT	3-4
NORTHWOODS STARFEST	4
BOARD MEETING	4
BOARD ELECTIONS	4
MEMBERSHIP SERVICES	5

Night Sky Network Member Society

Astronomy Clubs bringing the wonders of the universe to the public



Eye in the Sky

July 2009	
7	Full Moon
19-24	Nebraska Star Party
21	New Moon
22	Total Solar Eclipse for Asia and Pacific
23-26	Wisconsin Observers Weekend

August 2009	
5	Full Moon
12	Perseid Meteor Shower Peaks
14	Jupiter is at Opposition
17	Neptune is at Opposition
20	New Moon
20	Mercury is 0.9° from Venus in the Evening Sky
21-23	Northwoods Starfest
24	Mercury is at Greatest Eastern Elongation, 27°

Sky Talk—Greatest Elongation

By Brian Chopp

In the month of August, Mercury will be at greatest eastern elongation. What does greatest elongation mean and why, as observers, do we care? Elongation is a term used with the inner planets, Mercury and Venus, and refers to the angular distance between them and the Sun; or in other words, how far apart the planets appear from the Sun in the sky.

So what causes this elongation? As the inner planets pass behind the Sun from our view point on Earth, they will initially appear very close to the Sun.

The elongation will only be a few degrees. But as the planets move in their orbits and begin to catch up with Earth, they will appear to move further from the Sun in the sky. The elongation will increase. Each day the planet will appear to move further and further from the Sun until they reach a point in which the separation is greatest.

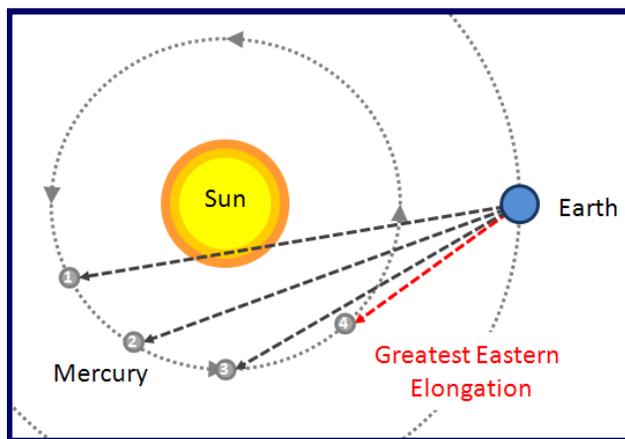
This is called greatest elongation.

When the inner planet is trailing Earth in its orbit, it is called greatest eastern elongation and the planet is visible in the evening sky. When the inner planet is leading Earth, it is called greatest western elongation and the planet is visible in the morning sky.

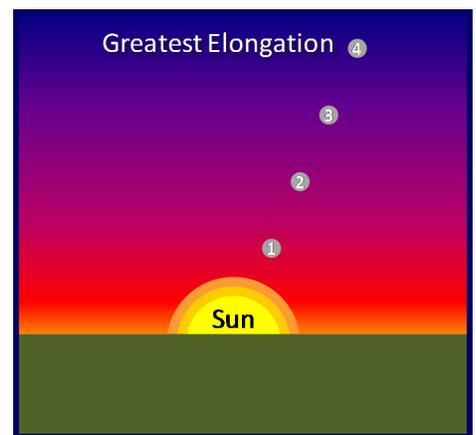
So why is elongation important? The inner planets orbit inside Earth's orbit, so they never stray to far from the Sun and are often lost in the Sun's glare. At greatest elongation, the planets

appear furthest from the Sun in the sky and thus give you the best chance of finding them outside of the Sun's glare. They are also generally higher in the sky after sunset/before sunrise.

For Venus, greatest elongation can be between 45° and 47° . For Mercury, greatest elongation can be between 18° and 28° . Remember, 18° is only about three fists from the Sun, not too far. So on August 27th, at 27° , Mercury will be about as from the Sun as possible. □



(Left) View of the solar system from space. As Mercury moves through its orbit and catches up with Earth, its elongation increases. (Right) View of the Sun and Mercury from Earth. At greatest elongation, Mercury appears furthest from the Sun.



Not all Observations are Successes, Unfortunately

By Dick Francini

I have not been into astronomy long enough to remember the last time Saturn's rings were tilted edge on, about 14 years ago. As this time approached, I started wondering if we would get some shadow transits similar to the ones that are common place on Jupiter. My answer came in the 2009 Observer's Handbook (pg 338) under their 2009 Observer's Challenge section. There is a list of 17 Titan shadow transits in 2009, the other moons are apparently too small to cast a shadow large enough to see with an amateur telescope.

The first transits were scheduled to occur very early in the morning. I have never had much luck getting up a 4 or 5 in the morning to do an observation, something always goes wrong. In my most recent effort the mirror was not cooled down enough and I'm not getting up an hour earlier just to give the mirror sufficient time to cool. I also noticed these early morning shadow transits all happened when Saturn was rather low in the western sky, so I skipped these early transits thinking there would be better opportunities later in the year.

My first serious attempt was to be on April 29th at 1:22 CDT (6:22 UT) but the weather was bad and this one never got off the ground. Strike one.

My next try was on May 15th at 12:26. About an hour before the start of the shadow transit, the sky was about 1/3 clouded over but Saturn was out in the open and the seeing was excellent at four out of five (just the conditions required for this type of observation). You can probably guess where this is going? About 30 minutes prior to the event, the western sky clouded up with high clouds. You were still able to see Saturn naked eye through the clouds but they were heavy enough to keep the shadow from being detectable. The situation continued to worsen until you could not see Saturn naked eye at all and could

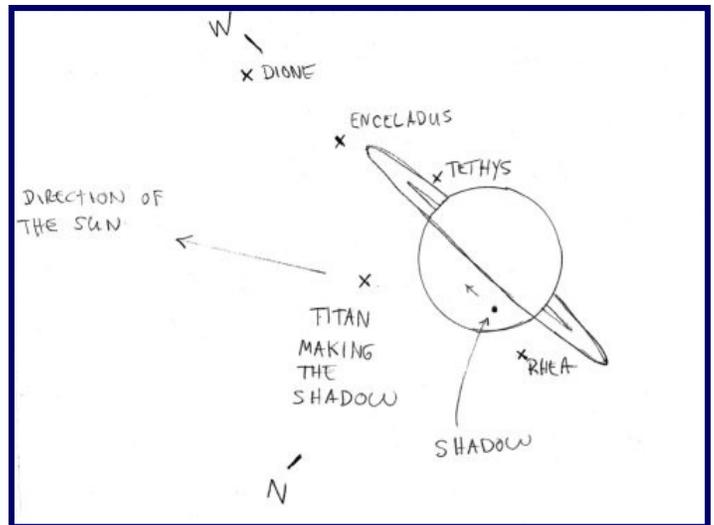
barely see it in the telescope eye-piece. The clouds were not moving in any obvious direction, so you could not wait for a break in the clouds to move across Saturn. They seemed to be forming, partially dissipating, and then reforming in the same area of the sky. My only hope was for the clouds to thin out enough to see the shadow.

I decided to hang in there for awhile as I knew that behind the clouds the conditions are nearly perfect. By about 1:20 I was ready to give up, but just then the clouds thinned enough for me to get a decent look. The shadow was visible off and on (maybe 50% of the time) for maybe ten minutes before the sky completely clouded over for the night. It was not as spectacular as anticipated because it was such a struggle to physically do the observation, straining your eye to get a brief look. But despite this it was a very interesting and yet odd looking sight, a moon's shadow on the north side of Saturn just below the rings (I was using my 16" reflector so things are upside down), see my picture showing the shadow on the planet at 1:30 (6:30 UT). It became a bit of a race against time, will the clouds thin enough before Saturn gets so low in the sky that the seeing will have degraded to the point that the observation is impossible. The sight was certainly not great but enough to wet my appetite for another try under better conditions. Sort of strike two.

I went out to Tony's observatory on May 31 to try again. This time it was

clear, we were good to go, right? This time it was scheduled to start at 11:32 on May 30th (4:32 UT on May 31st). Before I talk about this attempt, let's discuss the problems involved.

If you study the chart of all 17 transits you quickly note that they ALL take place when Saturn is low in the western sky and dropping fast. So the seeing is already worse than it would be if Saturn was high in the sky and getting worse every minute as it drops



Above is a sketch made of Titan's shadow on Saturn. This sketch is of the May 15th shadow transit.

toward its setting position on the horizon. It seems like too much of a coincidence that it would be low in the same part of the sky in all 17 cases, so there must be some sort of geometry thing going on here where the transit can only occur in this area of the sky. I can't figure out why this would be the case.

You don't have the luxury of waiting for weather conditions to improve, as seeing is only going to get worse as Saturn gets lower. You also have to make the observation when the shadow is more on the side of Saturn's sphere as opposed to the front. Again you don't have the time to wait for the shadow to get further along its track.

(Continued on page 4)

(Continued from page 3)

Finally, add to the equation the fact that very good seeing is fairly rare in our part of the Midwest. Pretty much everything is working against you.

The seeing on evening of May 30/31 turned out to be very poor, maybe a 1 ½ out of 5 (a generous rating). The shadow was not visible at all as you could never get Saturn properly focused, not even for a brief moment. Strike three! On this particular night the ½ moon was very close to Saturn. The bright light entering the end of Tony's Schmidt Cassegrain scope made for some weird circular arcs of bright light in the eyepiece, apparently some sort of internal reflections going on. He had to give up and we used my scope which was not as affected by the bright moon light. Problems and more problems.

I really thought this would be a much easier observation which has turned into a real struggle due to the unforeseen issues mentioned above. But I have not totally given up; there is another shot on June 16th starting at 10:40 CDT. I plan to try once again. As Saturn sets earlier and earlier each night we are rapidly running out of chances, many of the later transits on the list occur in the daylight in late afternoon.



If my future efforts fail, at least I can say I did see a Titan shadow transit briefly, although under less than optimal conditions. Unfortunately, I may have to wait 14 more years to see it well.

One last comment, you may be asking, why go to this much trouble? The an-

swer is, when you have done a fair amount of observing, this type of "WOW I've never seen anything like that before" observation become more interesting and noteworthy, and are thus worth the extra effort to try and accomplish. The recent daytime Lunar occultation of Venus is another good example this type of observation. "Wow I've never seen anything like that before either."

Update:

I planned to try again on June 16, but was clouded out once again. I guess that's strike four. There is yet another opportunity on July 2nd at 9:49 CDT, but Saturn is even lower and we are now into twilight. ☐

Northwoods Starfest

The Chippewa Valley Astronomical Society will be hosting the 21st annual Northwoods Starfest, August 21st through 23rd, 2009, at Hobbs Observatory near Fall Creek, Wisconsin.

Hobbs Observatory has two domes, one with a 24-inch f/5 reflector and the other with a 14-inch Schmidt-Cassegrain. There is a large meeting area where some talks and presentations take place. There is a large auditorium located at the Nature Center. There is a large field in front of the observatory to set up for observing. The skies are quite dark.



The registration fee is \$50 per person until July 15th (postmark date). It is \$60 after that. The fee includes registration, meals and snacks, lodging or camping fees, and speakers' fees. The fee does not include Friday night brats and hot dogs.

Please see their website at <http://www.cvastro.org/sf2009.html> for more details. ☐

Board Meeting

The next NPMAS board meeting will be held on July 29th at 7:00. The location has not yet been determined. All club members are welcome to join. ☐

Board Elections

We will soon be holding elections for the NPMAS board of directors. The club will be taking nominations in August and September and elections will be held in October.

Please take some time to consider if you would like to run for the board or other club members that you think would have a positive impact on the club and would make good board members. ☐

Club Member Services

LOANER TELESCOPES

NPMAS members are welcome to use, free of charge for a one month period, one of the five club telescopes available. Please contact Gerry Kocken at 920-676-6363 or at gerryk@kockenwi.com to make arrangements. The five telescopes available are:

- 10 inch Dobsonian Telescope
- 60 mm Bushnell Voyager
- 8 inch Triple Axis Newtonian Telescope
- 13 inch f/4.5 Dobsonian Telescope
- Meade ETX125 Cassegrain Telescope with Auto Star



Club Library

NPMAS has a collection of astronomy related books and videos covering a wide variety of topics including observing, the solar system, stars and more. Items can be checked out at monthly club meeting or by contacting Tom Cashman at 920-432-2261.



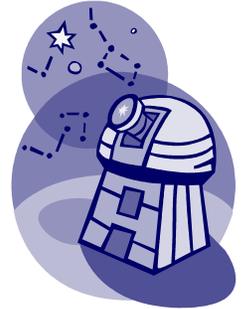
NPMAS OBSERVING SITES

NPMAS members have access to three observing sites located on private land and belonging to members of our club.

Parmentier Observatory

Parmentier Observatory is home to a 30 inch classical Cassegrain telescope, the largest private observatory in Wisconsin. Members may view through the 30 inch or set up their own telescopes in the adjoining field.

Observatory Contact
Gary Baier—920-391-9654



Crivitz Observing

This is the private residence of Dave Jorgenson and Carol Eggleston. Located in the north woods of Wisconsin on 100 acres of land, this site offers some of the darkest skies around. The field is equipped with electricity and the far cabin is available for use. Please call ahead to make arrangements.

Dave Jorgenson and Carol Eggleston Home—715-757-3296

Cedar Drive Observing

This is the private residence of Tony and Tara Kroes, located Southwest of Pulaski on 10 acres of land. Members are welcome anytime but please call ahead to make arrangements.

Tony Kroes Home—920-822-4959.

NPMAS BOARD

Officers

President
Gerry Kocken
gerryk@kockenwi.com
920-338-9720
920-676-6363

Vice President
Don DeWitt
ddwitt@tds.net
920-405-8534

Treasurer
Dick Francini
dfrancinipkg@new.rr.com
920-338-8504

Secretary
Amy Hannon-Drew
momran2@yahoo.com
920-499-0395

Board Members

Gary Baier
gbaier@netnet.net
920-391-9654

Brian Chopp
bchopp@new.rr.com
920-544-0708

Katrina DeWitt
gate-geek@tds.net
920-405-8534

George McCourt
geokat73@sbcglobal.net
920-468-9296

Chris Schroeder
chris@jsaonline.com
920-406-5277

2009 STAFF/COMMITTEE CHAIRS

ALCor Representative Brian Chopp
Awards Coordinator Chris Schroeder
Camp U-Nah-Li-Ya George McCourt
Historians George McCourt
Don DeWitt

Holiday Party Katrina DeWitt
Librarian Tom Cashman
Membership Dick Francini
Messier Marathon Mike Monfils
Night Sky Network Katrina DeWitt

Observatory Contact Gary Baier

George McCourt
Properties Gerry Kocken
Public Outreach Katrina DeWitt
Gerry Kocken

Website Don DeWitt
Yahoo! Coordinator Don DeWitt

The Eyepiece

Editors : Brian and Ann Chopp
Circulation : 80
Submissions can be emailed to
bchopp@new.rr.com
or mailed to
2832 Friendly Circle
Green Bay, WI 54313

The Eyepiece is a monthly publication of the Neville Public Museum Astronomical Society. Material in *The Eyepiece* may be reprinted for nonprofit use with proper credit and consent from both the editor and writer. The editor reserves the right to accept or refuse, edit for content, etc., any article or image submitted for publication.