



# Obs~server

Newsletter of the Racine Astronomical Society

February 2008

[www.rasastro.org](http://www.rasastro.org)

## ~Special Features (below) ~

Saturn reaches opposition on February 24th  
Mars Axial Tilt Comparison – Images by Mark Schmidt  
Don't miss the Total Lunar Eclipse on February 20<sup>th</sup> – the next one is in 2010

## ~Presidents Message~

I look forward to the 2008 season. Hopefully, the weather we've had so far this year is not an indication of what's to come. We had very successful public nights all of last year and hope that continues this year. The dates for all club events have now been selected for the year and we encourage all members to mark their calendars and come on out.

~Dave Mogensen~

## ~Vice Presidents Message~

Welcome to 2008. The "new" Board of Directors has been chosen and our dates have been picked (see below). I will add the members night dates with the on-duty person listed once the info is available.

We have one opening on the board of directors for a member at large. This is a great opportunity to become more involved with RAS decisions and event planning, and gives us something to do on the first Monday of each month. No experience is required! If you are interested in being on the board or have questions, please send an e-mail to: [rasastro@wi.net](mailto:rasastro@wi.net).

~Dave Finch~

## ~Saturn reaches opposition on February 24th~

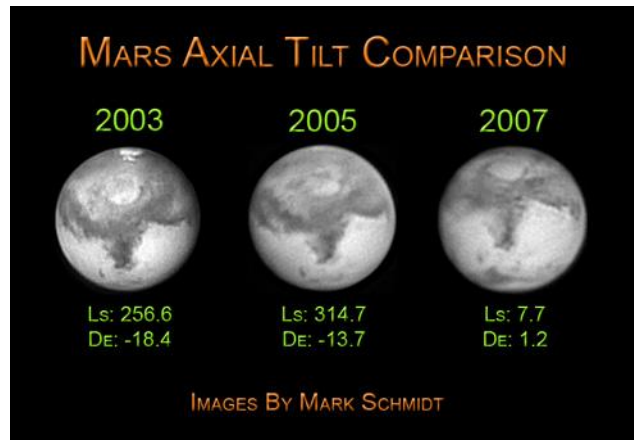
Saturn will reach opposition on February 24<sup>th</sup>. Opposition is when a planet is directly opposite the Sun in our sky and rises at sunset – it will be in the sky all night long. Opposition is the closest approach of a planet during the year. Saturn will be best (on the 24<sup>th</sup>) after 8:30 PM when it is more than 30 degrees high in our sky. The inclination (tilt) of Saturn's rings will be -7.5 degrees at opposition and grow to -9.9 degrees in May. After May the ring inclination will continuously decrease throughout the year. The Earth passes through Saturn's ring plane in September 2009 at which point the rings will be edge-on and nearly invisible.

~Dave Finch~

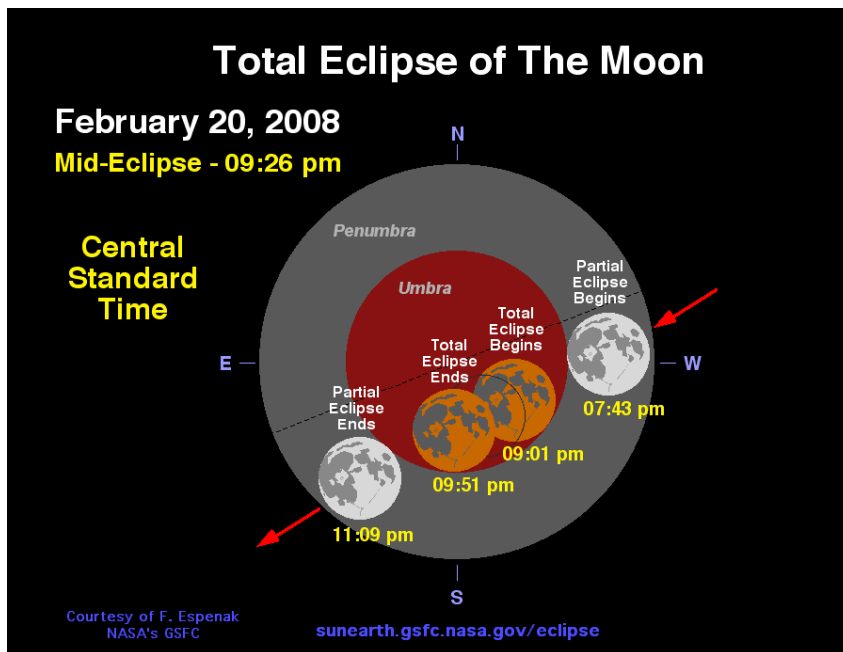
For more info: <http://soc.jpl.nasa.gov/viewing.cfm>  
<http://www.earthsky.org/article/51004/give-me-5-minutes-ill-give-you-saturn>

~ Mars Axial Tilt Comparison – Images by Mark Schmidt ~

Every couple of years Mars gets close to earth in its orbit and this past December was no different. Mars reached closest approach on December 19, 2007. A week later Mars reached opposition (when Mars is on the opposite side of earth from the sun) on Christmas Eve, December 24, 2007. As he has done many times in the past, our resident “Mars Man” Mark Schmidt was imaging Mars that night and acquired the image on the far right. The representation is a series of three Mars images taken by Mark in 2003, 2005 and 2007. All three images were taken at the approximate same Martian longitude (central meridian) and show the differences in the axial tilt of Mars as seen from earth. South is up on all three images. The label designation “De” below each image is the declination of Earth as seen from Mars and it defines the axial tilt of Mars relative to Earth in degrees. When the Martian South Pole is tilted towards Earth the latitude in degrees are negative numbers and when the Martian North Pole is tilted towards Earth the latitude in degrees are positive numbers. The Martian equator is 0 degrees latitude.



~ Total Lunar eclipse - February 20, 2008 ~



If you miss the Total Lunar Eclipse on February 20, 2008 you'll have to wait until December 21, 2010 to see the next one – anywhere!

The eclipse begins at 7:43 PM and ends at 11:09 PM, with totality occurring from 9:01 PM until 9:51 PM. The Moon will be approx. 25 degrees up when the partial eclipse begins and 38 degrees up when totality begins.

This is a very favorable eclipse for us. Be sure to see it if the sky is clear!

Eclipse map courtesy of Fred Espenak - NASA/Goddard Space Flight Center. For more information on solar and lunar eclipses, see Fred Espenak's Eclipse Home Page: <http://sunearth.gsfc.nasa.gov/eclipse/eclipse.html>

## 2008 Event Calendar

### March

29 - Spring Star Party

### April

5 - Spring Star Party (Rain Date)

12 - Work Party (9 AM)

19 - Work Party (Rain Date)

19 - General Meeting (7:30 PM)

25 - Public Night (8-11 PM)

### May

10 - Astronomy Day

2-5PM (Solar) & 8-11 PM

### June

6 - Public Night (8-11 PM)

### July

11 - Public Night (8-11 PM)

19 - General Meeting (7:30 PM)

26 - Summer Star Party

### August

2 - Summer Star Party (Rain Date)

16 - Picnic

22 - Public Night (8-11 PM)

### September

19 - Public Night (8-11 PM)

### October

18 - General Meeting (7:30 PM)

25 - Fall Star Party

### November

1 - Fall Star Party (Rain Date)

15 - Work Party (9 AM)

22 - Work Party (Rain Date)

### December

20 - Christmas Party (7:30 PM)

### ~ From the Editor~

If you have submissions for the newsletter, questions, comments, or ideas, please send me an e-mail.

Also, if you are still receiving you're newsletters via postal mail and have access to e-mail you can opt to receive them in a PDF format via e-mail instead. You'll get them a little faster and save the RAS a few bucks. If you would like to change you're delivery method or receive a sample PDF newsletter, please let me know.

Dave Finch

The free Adobe Acrobat reader can be downloaded here:

<http://www.adobe.com/go/BONRM>

### ~Contact Information~

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