

# Mountaineer Skies

Volume 2, Issue 3

<http://www.as.wvu.edu/~planet/index.html>

March 2002

## From the Editor

### The Egg and the Equinox

It is difficult, especially when we are bombarded by so many different news sources, to differentiate between fact, fiction, and myth. A good example, which is often reported in the news around the time of the vernal equinox, is the old myth about being able to stand a raw egg on its end only during this time. Often the explanation that accompanies the story is very vague, but usually they say something about the day and night being of equal length, which is true, but that has nothing to do with whether or not you can do the egg trick. The best way to test this is by experimentation. Just try to stand a raw egg on end any other day of the year, and you will find, though it is difficult because of the liquid yolk, that it is no easier on one day than any other.

If this sort of thing interests you, and it probably should, you might try

<http://www.badastronomy.com/>

for some other examples of bad science.

## In The Sky This Month\*

Although we say that the sun rises in the East and sets in the West, this is only true for two days of the year, the Autumnal Equinox and the Vernal Equinox. On these two days we have very nearly equal periods of night and day. The **Vernal Equinox**, the first day of spring, arrives on March 20 at 14:16. The Summer Solstice begins on June 21 at 9:24.

### Visible Planets in the Night Sky

**Mars** continues to dim in **Aries The Ram**. It is up at 8:17, transits (or is highest in the sky) at 15:17 and sets at 22:15.

**Saturn**, the second largest planet, is now a pale yellow and remains in the horns of **Taurus, The Bull**. The multi-ringed planet rises at 9:56, transits at 17:18, and sets at 00:35 the next day.

**Jupiter**, the largest planet in the solar system, is high overhead and still in **Gemini, The Twins**. This month the gas giant is a very bright nighttime object. In the middle of the month it should rise about 11:38, transit at 19:12, and set at 2:42 the next morning.

**Venus** may be just visible at sunset in the west. It sets at 19:40 in the middle of the month.

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\* All times are local, using the 24 hour clock which means that 8:00 is 8:00 AM. and 20:00 is 8:00 P.M. Planets always rise in the eastern part of the sky so that if a planet rises at 20:00, then you should look eastward at 8:00 P.M.

A transit occurs when a celestial body passes an imaginary line that extends from directly overhead (the zenith) to south on the horizon.

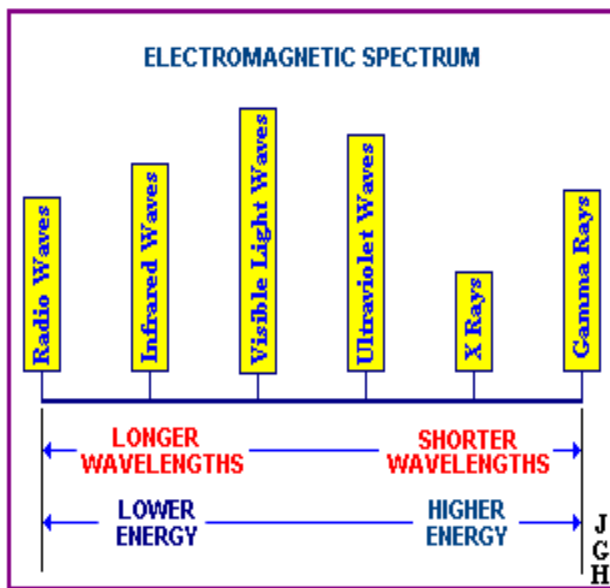
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## About: Radio Waves

**Visible light**, the light we see with our eyes, is composed of the colors red, orange, yellow, green, blue, indigo and violet. But this is just one part of the electromagnetic spectrum. Other parts, which are not visible to our eye, include **radio waves**, **infrared**, **ultraviolet waves**, **x-rays**, and **gamma rays**.

As can be seen from the graphic below, radio waves are at the long wave length and low energy end of the electromagnetic spectrum. These wave lengths are what a **radio telescope** is able to detect. At the other end of the spectrum are the higher energy waves such as x-rays, which are used to take images of the inside of the body, and gamma rays that result from radioactive atoms and nuclear explosions.



### Request for Articles and Photographs

If you have an article or photographs that you would like to submit for publication, please send them to:

John Hopkins  
Subject: Submission  
256 Hodges Hall  
West Virginia University  
Morgantown, WV 26506

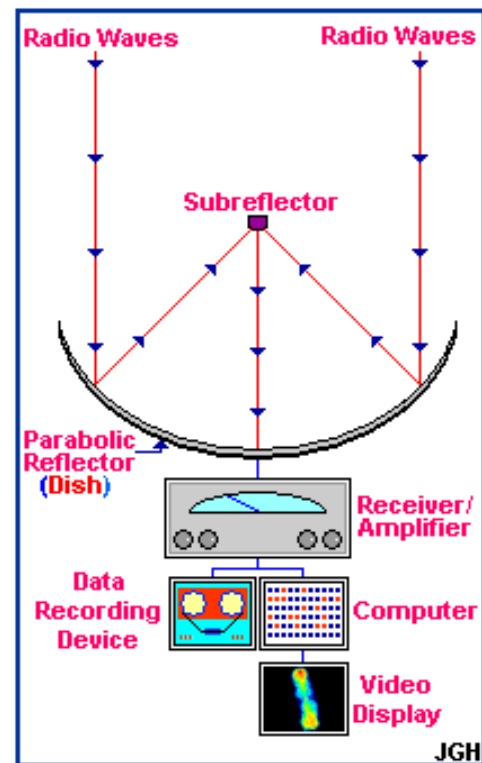
Or email to: [jhopkins@mail.wvu.edu](mailto:jhopkins@mail.wvu.edu) with "Submission" on the Subject line.

## Radio Telescopes

An optical telescope is able to see visible light, whereas a **radio telescope** is an instrument that is able to detect radio waves which are not visible to the eye (see **About: Radio Waves**).

There are five primary parts.

- The **parabolic reflector** (dish) and the **subreflector** collect, focus, and convert into electrical signals the incoming radio waves.
- The **receiver and amplifier** take the electrical signals and amplify them.
- The **data recording device** stores the electrical signals.
- The **computer** analyzes the data.
- The **video display** provides a visible picture of the source of the radio signals.



The world's largest radio telescope at 305 meters is located in Aricebo, Puerto Rico and has been featured in several films. The National Radio Astronomy Observatory is in Green Bank, WV.

## 2002 Planetarium Shows

***Magellan: Report from Venus*** – The Magellan radar-mapping mission to Venus was extraordinarily successful; the spacecraft returned more data than all NASA's previous planetary missions combined. During this half-hour planetarium show, we follow Magellan's progress, from its launch through the most significant discoveries. Included are spectacular images of volcanoes, impact craters and landslides. Important planetary science topics of volcanism, tectonism, and impact cratering are covered, and radar imaging is discussed.

**Coming is August, 2002**



**Narrated by Patrick Stewart**

March 8 & 22, 2002 <i>Magellan from Venus</i>	April 12 & 26, 2002 <i>Magellan from Venus</i>	May 10 & 24, 2002 <i>Magellan from Venus</i>
June 14, 2002 <i>Magellan from Venus</i>	July, 2002 Closed	August, 2002 <i>MarsQuest</i>

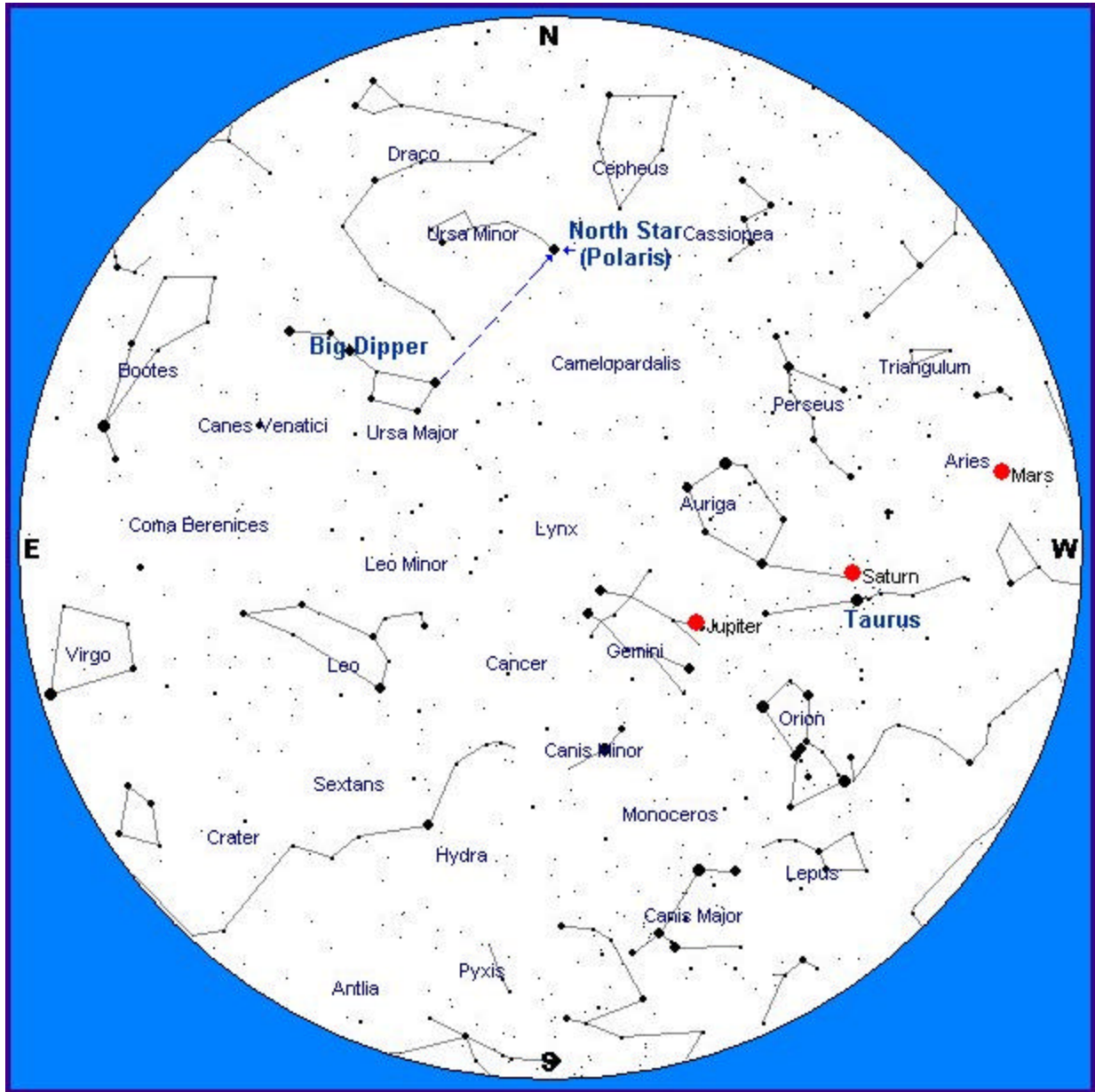
For those who are interested in bringing a group, such as schools or scouts, during the day, please call for more information. These shows are usually given on Tuesday or Thursday mornings.

For further information or reservations, please call John Hopkins at (304)293-3422, extension 1443 or by email at: [jhopkins@mail.wvu.edu](mailto:jhopkins@mail.wvu.edu)

### Selected Sunrise/Sunset and Moon Rise/Moon Set Times

Date	Sunrise	Sunset	Moon Rise	Moon Set	Moon Phase
Mar 5	6:47 A.M.	6:16 P.M.	00:48 A.M.	10:47 A.M.	Last Quarter
Mar 13	6:35 A.M.	6:25 P.M.	6:47 A.M.	6:06 P.M.	New Moon
Mar 21	6:22 A.M.	6:33 P.M.	10:39 A.M.	1:05 A.M.	First Quarter
Mar 28	6:11 A.M.	6:40 P.M.	6:46 P.M.	6:26 A.M.	Full (Worm) Moon

March 2002 Sky Chart\* for:  
 10:00 P.M at the beginning of the month  
 9:00 P.M in the middle of the month  
 8:00 P.M at the end of the month



\* Sky Chart used with the kind permission of Heavens-Above at <http://www.heavens-above.com/>

The Tomchin Planetarium is named in honor of the late Harold Tomchin, of Princeton, W.Va., who made a generous donation to ensure its continuing operation, and whose family continues to support the planetarium for the educational benefit of WVU students, staff, and faculty members, as well as the local community. **Contributions can be made in support of the planetarium through the WVU Foundation Inc.**



Edited by John Hopkins  
 (304)293-3422, extension 1443  
 jhopkins@mail.wvu.edu

