UNA Planetarium Newsletter

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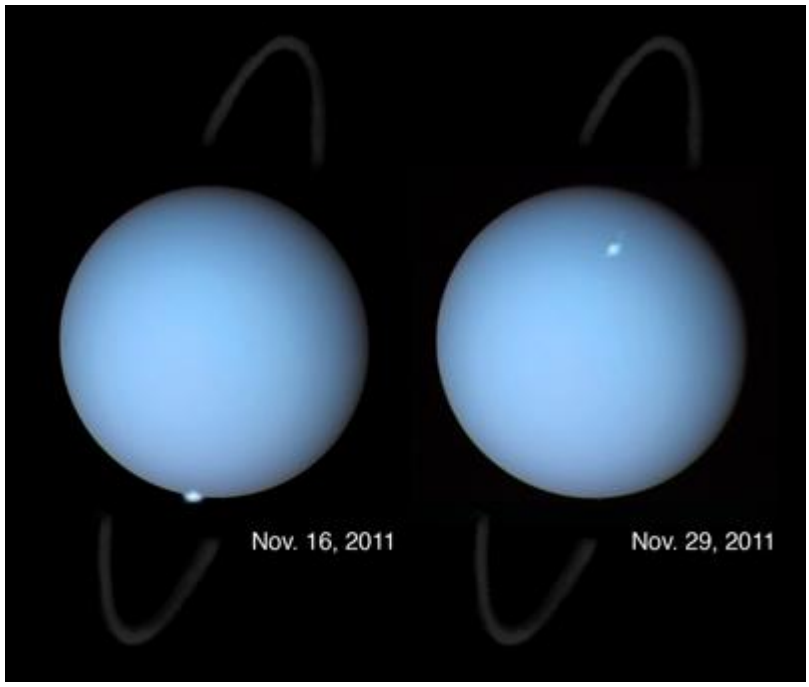
Astronomy is now a science that is conducted by scientists with many tools. Large telescopes site on top of mountaintops using the light from objects to tease out new information about the universe. We have realized that there is radiation from objects the human eye cannot even see. This radiation can be very low energy infrared and radio waves, or very high energy X-rays and cosmic rays. In some cases millions of dollars are spent sending telescopes into orbit to get above the atmosphere.

Astronomy is also a lab science with geologists studying meteorites to learn about the early solar system or probes on Mars and orbiters around Saturn. We know that water one flowed on Mars and Saturn's moon Enceladus has geysers. Astronomy is also a science that uses theoretical studies to find the nature of the cosmos. In some cases high end computers are used to simulate the universe and learn how its structure originated.

However, at the heart of all of astronomy is its origin of people looking up at the night sky and wondering. The movement of the planets, the appearance of comets and the Aurora Borealis were all noticed and interpretations made. We get a reminder of this on Sunday when the Moon will block the light of the Sun because the geometry is just right. Sometimes the best tool to study the universe is just your eyes!

UNA Planetarium and Observatory, is operated by the Dept. of Physics and Earth Science

Image of the Month



The Hubble Space telescope is famous for its images of galaxies and exotic objects. However, with no probe going to the outer planets anytime soon, it is also making contributions to our understanding of Uranus and Neptune. By taking images of the planet over time, changes in its atmosphere can be detected as seasons change while Uranus orbits the Sun. In this case, the auroras on Uranus can be seen as bright regions near its poles. Auroras occur when charged particles from the Sun get trapped by a planet's magnetic field and spiral downward to the atmosphere of the planet. The release of energy causes the bright lights we call auroras. The ring of Uranus is also visible. **Image courtesy NASA.**

Astro Quote:

"*Astronomy is the science of the harmony of infinite expanse.*"

— *Lord John Russell*

Upcoming Events

May 15rd. Planetarium public night.

May 18th. Planetarium public night.

May 20th. Partial Solar Eclipse.

May tours start at 7:30PM on Tuesday and Friday evenings. Tours consist of a "Stars Tonight" constellation discussion and either observing or a digital video presentation depending upon the weather. Tours are targeted towards a general audience. $3/person.

Observing Highlights

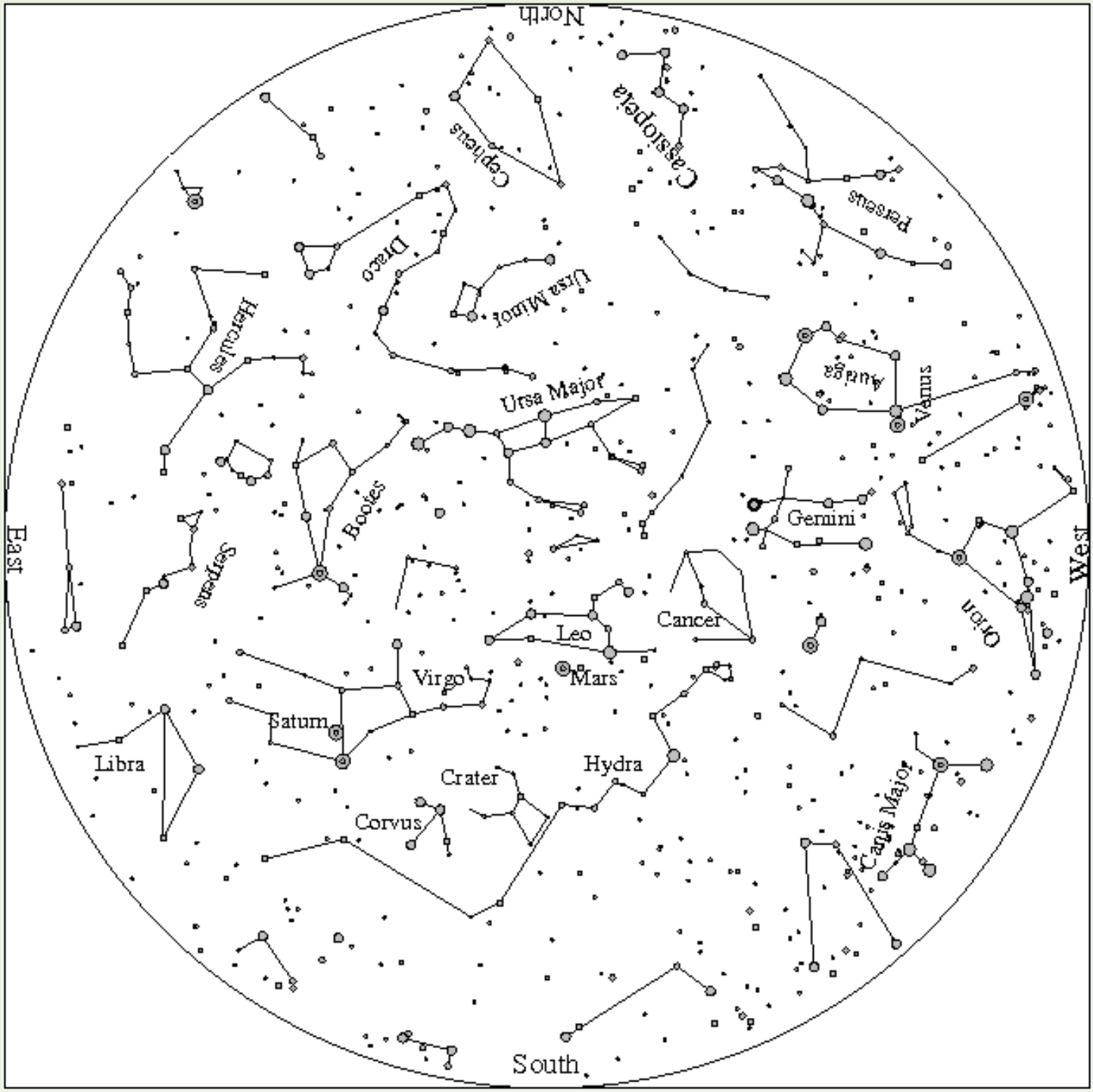
Venus lies in the western sky brightly shining in Taurus.

Mars lies high in the southeastern sky in the constellation Leo.

Saturn lies in Virgo low in the southeast just after sunset near the bright star Spica.

May 20th will see a partial eclipse take place as the sun sets. It will be annular from the western U.S.

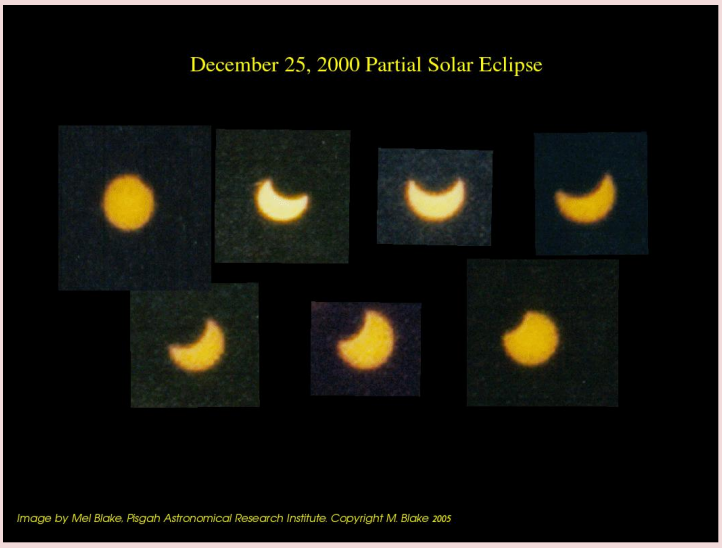
The May 2012 Sky for North Alabama



How to use this Chart: The sky is shown for 8:00PM, May 20th for Florence, Alabama. It will appear this way one hour earlier for each week difference in time. The stars brightness's are represented by different sized dots. The faintest stars you can see are the small dots; the brightest ones are large dots. Hold the chart with the direction you are facing down. So if you are facing north, hold the chart with north down. The circle represents the horizon and the center of the chart the point directly over your head. So an object half-way between the center and edge of the chart is half-way up in the sky. This chart was prepared using the SkyNow software of R. M. Blake. This chart may be reproduced for non-commercial purposes with the following acknowledgement included: Courtesy UNA Planetarium and Observatory. http://www.una.edu/planetarium/.

The May 20th Annular Solar Eclipse

May 20th will see a rare treat for those who watch the sky. On that day, just near sunset from Alabama, the Moon will pass directly between the Sun and the Earth, causing what is called a solar eclipse. In this case the eclipse will be an annular eclipse. Two weeks ago the largest full moon of the year occurred because the full Moon occurred when the Moon was closest to the Earth in its orbit. This means for the new moon, half an orbit away the Moon will be farther than normal from the Earth. As a result, when the Moon passes in front of the Sun it will not quite cover the face of the Sun. The eclipse will have a ring or annulus of light around the Moon. From Asia, the pacific and western North America the result will be a "Ring of Fire' eclipse. From other locations the eclipse will be partial where the Sun's light is blocked only partially. From Florence, the eclipse will occur just before sunset, and so we will not get to see the eclipse from start to finish, but we will get to see the first 23 minutes of it starting around 7:28PM and ending about 7:48PM when the sun sets. If you have never seen a partial solar eclipse, it is a great event to get a sense of celestial geometry.

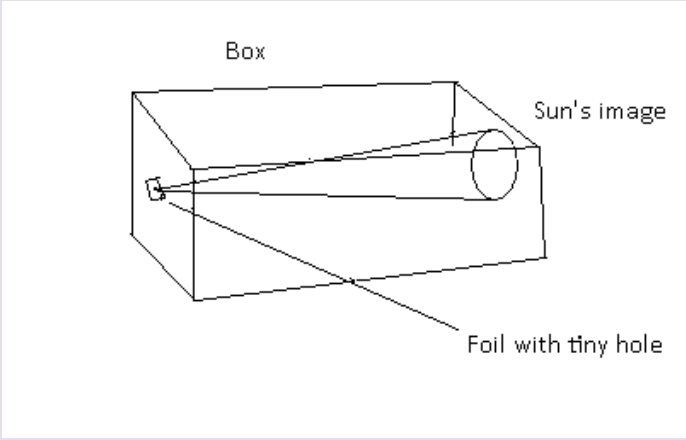


The Dec 25tt 2000, partial eclipse from Toronto Canada. We will see just the early stages of the eclipse before the sun sets. Photos by Mel Blake.

Planetarium Eclipse Program

UNA Planetarium will have an eclipse viewing event starting at 6:30 PM. We will start with a talk about eclipses and then start viewing the Sun using our screened telescopes and eclipse glasses which will be available for sale. This will give us a change to view the Sun as it sets and examine any sunspots on the Sun while we wait for the eclipse. We will then observe the eclipse until the Sun sets. All are welcome to join us and watch this rare event.

A Solar Pin-hole Projector for Eclipse Viewing



You can safely view the eclipse using a pin-hole projector. A tiny hole in a paper plate or piece of tin foil will project the Sun's image onto a sheet of paper or another paper plate. For best results make the hole small. If you don't want to hold the sheet with the pin hole up the entire time, make a projector with a box that can be set down. The box just serves to as a stable platform you don't have to hold and to provide contrast if you put a cover over the back and view from the front. Anything with a small hole will show the nibble out of the Sun even holes in leaves! The planetarium will also have eclipse glasses for sale that are safe to use as well.

Warning: You should never look directly at the Sun as it can be harmful to your eyes! To view the eclipse the planetarium will be using equipment specifically designed for viewing the Sun and solar eclipses.