

Eye on the Sky - June 2010

By Nancy Alima Ali

A Comparison of Two Stars

Two of the brightest stars in the sky can be found in the constellation Centaurus. Visible in the southern sky after sunset throughout June, Centaurus is a half-man half-horse that is leaping over the Southern Cross. Alpha Centauri and Beta Centauri make up the front hoofs of the centaur. To locate these stars, find the Southern Cross low on the southern horizon and then look eastward for two nearby bright stars.

Although we see them as individual stars, Alpha and Beta Centauri are actually multiple star systems. Alpha Centauri, also called Rigil Kentaurus, consists of three stars that are bound together by gravity. The Beta Centauri system includes two stars, the brightest of which is known as Hadar.

At a distance of about 4.39 light years away from Earth, Alpha Centauri is the closest star to our solar system. A light year is the distance that light travels in one year, equal to about six trillion miles. This means that the light we see from Alpha Centauri was actually generated 4.39 years ago. When we look at this (or any other) star, we are actually looking into the past.

Beta Centauri is much further away at a distance of about 526.07 light years. Although the stars appear to be at a fixed distance on the dome of the sky, in reality Beta Centauri is more than 100 times more distant than Alpha Centauri.

Astronomers measure the brightness of stars using a magnitude system. A star with a lower magnitude is brighter than a star with a higher magnitude. Alpha Centauri's apparent magnitude is -0.04. Beta Centauri is slightly dimmer with an apparent magnitude of 0.59. When you consider the stars' magnitudes in comparison to their relative distances, it becomes clear that Beta Centauri is putting out much more energy than Alpha Centauri.

Partial Lunar Eclipse

On the evening of June 25-26, Hawaii observers will be treated to a partial eclipse of the moon. During a partial lunar eclipse, the Earth's shadow falls upon the full moon causing the moon to darken. Partial lunar eclipses are not as dramatic as total lunar eclipses where the moon turns red, but they are still worth staying up late to observe.

This month's partial eclipse starts on June 26 at 12:16 a.m. Over the next hour and a half, observers will see the full moon darken until only half of it is visible at 1:38 a.m.

Then, the shadow of the Earth will slide off the moon gradually until the complete full moon is visible again by 3:00 a.m.

Unlike solar eclipses, you do not need any special filters to view the lunar eclipse. Anyone in Hawaii with clear skies should be able to see it.

Summer Solstice

On June 21, at 1:28 a.m. the Earth reaches a point in its orbit around the sun known as a solstice. Since Hawaii is in the northern hemisphere, this is our summer solstice. People south of the equator celebrate this day as their winter solstice. As the longest day of the year, the summer solstice is celebrated by many cultures.

GOT QUESTIONS OR COMMENTS?

Please email nancyali@hawaii.edu or call 808-236-9169.

The Hokulani Imaginarium at Windward Community College offers shows and special events for the public. For a schedule of Imaginarium offerings, visit <http://aerospace.wcc.hawaii.edu/imaginarium.html>.