

# SEPTEMBER 2008 ASTRONOMY

*From the Trackman Planetarium at Joliet Junior College.*

The first day of autumn (Autumnal Equinox) is on September 22nd and for the next 180 days the sun will be above the southern hemisphere. By tradition, the equinox is the day when daylight and darkness are supposed to be equal, but in fact, due to anomalies in the earth's orbital speed, the actual day of equal sun above and below the horizon is on the 24th. It is also because of these orbital anomalies that the time between the first day of fall and the first day of spring is five days shorter than the days between the first day of spring and the first day of fall. On the 22nd, the sun sets at the North Pole and doesn't reappear until the Spring Equinox, and the sun rises at the South Pole and doesn't set until the Fall Equinox. And on the equinox, those driving east at sunrise or west at sunset get the sun directly in their face because the sun rises directly east and sets directly west.

Jupiter is the large, bright object in the southern sky after sunset. Venus is the bright object in the western sky after sunset. Venus, the third brightest object in the sky after the sun and moon, will be moving higher in the sky every night through the fall.

The summer triangle of Deneb, Vega, and Altair are still with us and will be in the evening sky for another two months. The stars set four minutes earlier every night, but the sun sets earlier every night too, so the triangle is visible for many months.

The sunrise appears to be moving farther south each morning and it rises a little later each day. If you are out before sunrise, look to the southern sky and you will find the winter constellation of Orion. (The three stars in his belt are easy to find.) In July, the sun was above Orion. It's amazing to see how far the sun appears to have moved across the sky in just two months. (Actually, it's the earth moving in its orbit that makes the sun appear to move through the background stars.)

The full moon is on the 15th and it is the Harvest Moon. The Harvest Moon is the full moon that comes closest to the Autumnal Equinox and can, therefore, occasionally be the full moon in October.

In the later evening, if you have a pair of binoculars and a star map, you should be able to find a fuzzball in the northeastern sky. That fuzzball is the Andromeda galaxy, a galaxy that is over two million light years away. Our Milky Way galaxy is destined to collide with the Andromeda galaxy in a couple of billion years. (Mark your calendars!)

Our public shows at the planetarium start at 7:30 on the 16th with "The Skies of September and October". At 7:30 on the 30th is "Solar System Spectacular" and at 6:30 on the 25th is the kids, favorite - "Larry, Cat in Space". We are also taking reservations from schools and scout groups for private shows. Call Christine at 815-280-NOVA between 7:00 am and noon for reservations and information.

We are getting close to the time of year when people start considering the purchase of a telescope. Good telescopes will bring many hours of enjoyment, but toy telescopes will bring

you nothing but frustration. Please e-mail the planetarium before you make a purchase and we will send you information on what to look for in a telescope.

In the July Newsletter, we reported on a spacecraft name "NanoSail D" that once in space would unfurl a 100 square foot sail and use solar pressure to fly through space. Unfortunately, the rocket sending NanoSail into space failed. If it had been successful, the sail propelled spacecraft would start slow after launch and then continue to gain speed, eventually far exceeding the speeds of rocket propelled spacecraft that virtually coast through space after being launched.

We stress to students visiting the planetarium that it is important to never lose your imagination. Some scientists in Japan have evidently not lost their imaginations and they are designing a paper airplane to be launched from the International Space Station in November. The object is to see what happens to a heat-protected paper airplane traveling at supersonic speeds when it comes in contact with the earth's atmosphere.

A Dutch elementary school teacher, Hanny vanArkel, discovered a new and exotic astronomical object while participating in a project known as "Galaxy Zoo". The object, a green glob of gas with a hole in its center, is now known as "Hanny's Voorwerp" (Hanny's Object) and Hanny has great bragging rights to her class.

*Art Maurer, Director* - E-Mail: [amaurer@jjc.edu](mailto:amaurer@jjc.edu)