

SEPTEMBER 2010 ASTRONOMY
From the Trackman Planetarium at Joliet Junior College

The Autumnal Equinox (beginning of fall) is at 10 PM on September 22nd. On that day, the sun crosses the sky directly above the earth's equator. After September 22nd, the sun will be below the equator and above the southern hemisphere until next spring. As the sun crosses farther south each day, it will appear lower in our sky, and we will get less direct radiation each day until the sun reaches its lowest point in December. On the Autumnal Equinox, the sun rises directly in the east and sets directly in the west. After the Autumnal Equinox, the farther north you go, the fewer minutes of sunlight you receive each day. The sun disappears at the North Pole on the equinox, but rises and stays above the horizon at the South Pole. On the equinox, the length of time the sun is above the horizon and below the horizon (day and night) is supposed to be equal. Actually, because of orbital dynamics, the equal day and night is on September 25th.

Venus will continue to be the bright object in the western sky after sunset, but it is slowly orbiting back toward the sun and will pass between us and below the sun in October. (On June 5, 2012, Venus will orbit in front of the sun (transit) and appear as a large black dot crossing the sun's surface.) Saturn has already orbited too close to the sun to be seen and Saturn will pass above and behind the sun on September 30th. Mars can still be seen in the western sky after sunset, but it is now a dim object 204 million miles from us. Mercury will pass between us and below the sun on September 3rd and then move to the west of the sun until September 19th, never getting far enough from the sun for viewing. The real superstar in our night sky is Jupiter. Jupiter rises in the east in early evening and will be at its closest to the earth on September 21st, 367 million miles away. If you have a small telescope, look for the four Galilean Moons. They will appear as four small objects in a line extended outward from Jupiter's equator. If one or two moons are missing, they could be behind or passing in front of the planet.

Because it is getting darker earlier each evening, the stars we can see in the hours after sunset are the same stars we could see when it got dark much later during the summer. The summer triangle of Deneb, Venus, and Altair are still easy to find directly above us. The Milky Way runs between the stars of the Summer Triangle. Look for the Teapot low in the southern sky at mid-evening. It is part of the constellation of Sagittarius and very easy to find. The center of our galaxy is right at the spout of the Teapot. The moon will be next to the Teapot on the 15th. The Big Dipper has moved around to the northwestern sky in mid-evening.

The International Space Station is making evening passes until the 17th. Go to Heavens-Above.com to get information for the times the ISS is visible.

The full moon is on September 23rd. The sun starts the month in Leo and on the 17th the sun moves into Virgo, where it will remain for the rest of September.

Now that the children are back in school, we have resumed our free public program schedule at the Trackman Planetarium. We begin with "The Skies of Autumn" on

September 14th at 7:30 PM and a version of the “Skies of Autumn” for younger audiences on September 23rd at 6:30 PM. On September 28th at 7:30 PM our show will be “Our Solar System”, for all audiences. All shows include a trip around the evening sky using our Spitz planetarium projector, and if the weather is acceptable, a trip outdoors after the show to view the real night sky.

The following quote is from Professor Isidor Isaac Rabi, an award winning physicist from the 1940s and 50s who worked on the development of radar and the atomic bomb:

“My mother made me a scientist without ever intending to. Every other Jewish mother in Brooklyn would ask her child after school, "So? Did you learn anything today?" But not my mother. "Izzy," she would say, "did you ask a good question today?" That difference - asking good questions - made me become a scientist.”

*Art Maurer
Director -Trackman Planetarium
Joliet Junior College
(amaurer@jjc.edu)*