

Heavenly News

“Sagittarius and the Milky Way Center”

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In the beginning of mankind (and womankind), man looked to the sky for his clock, calendar, and roadmaps. It told him when to sleep, when to plant and harvest, and there were guiding signs for when he traveled. Whether over land or sea, he depended on the stars to guide him. It is the same today.

For instance, let us take a journey to the center of our galaxy, the Milky Way, on a search for a black hole. First, let us find Polaris (the North Star). Look north/east and we will see the constellation Cassiopeia (which looks like a big "W"). Follow the brightness across to the constellation Sagittarius, in the south.

Sagittarius (in mythology) is an archer, holding a bow and arrow. Since it is difficult to imagine this figure in the sky, we have discovered an easier outline of stars here that we can relate to. We call this asterism the teapot. The teapot is easy to spot with its lid, handle, and spout. With some imagination, we can see steam rising from the spout (which, in reality, is the arm of the Milky Way that our earth lives in).

Now, let's stop and think for a minute. Our moon circles the earth. The earth circles the sun. What does the sun circle? Answer: a black hole in the Milky Way center. Black holes are sort of like the wind, we cannot see it, but we know it is there because we can make observations that are consistent with that behavior. For the wind, tree branches and other things blow around. In the case of a black hole, it's the gravitational pull on the nearby stars. In the vicinity of Sagittarius, there is a dense cloud of stars known as 'Sagittarius A', or 'A-Star', or 'Sgr A'. The stars, in this cloud, whirl around in elliptical orbits at speeds of about ten million miles per hour. They have been trapped in a gravitational force which is called a black hole.

So, if you go outside on a dark August night, look up into the south-eastern sky, find the teapot, and then locate the mass of stars that form a bright cloud in that area, you will know that you are looking towards the middle of our galaxy the Milky Way. And that, somewhere within that bright cloud there is a black hole with a mass of over four million suns.

The Community Observatory is a wonderful place from which to view the sky. It doesn't matter how little or how much you know about the universe to enjoy an evening looking at the stars and planets, or a day looking at the sun (through special telescopes). Sky docents are always present to help you learn and find answers to questions. We hope to see you there.

Please “Like” the Community Observatory on Facebook for weekly updates of astronomy fun facts and Observatory events. The Community Observatory located behind the El Dorado Center, Folsom Lake College, which is free and open to the public (weather permitting) Friday, Saturday and Sunday evenings from 8:30 PM – 10:30PM. You can find driving directions and more information about the observatory at www.communityobservatory.com