

Solar system position in milky way





Overview

The orbital speed of the Solar System about the center of the Milky Way is approximately 220 km/s (490,000 mph) or 0.073% of the speed of light. The Sun moves through the heliosphere at 84,000 km/h (52,000 mph).

The Milky Way is the galaxy that includes the Solar System, with the name describing the galaxy's appearance from Earth: a hazy band of light seen in the night sky formed from stars that cannot be individually distinguished.

The Milky Way is visible as a hazy band of white light, some 30° wide, arching the sky. Although all the individual naked-eye stars in the entire sky are part of the Milky Way Galaxy.

Sun's location and neighborhoodThe Sun is near the inner rim of the Orion Arm, within the Scutum-Centaurus Arm of the Milky Way, between the Scutum-Centaurus and Split linear structures (formerly the Scutum Arm). Based upon studies of stellar orbits around Sgr A* by Gillessen.

The Milky Way contains between 100 and 400 billion stars and at least that many planets. An exact figure would depend on counting the number of very-low-mass stars, which are difficult to detect, especially at distances of more than 300 ly (90 pc) from the Sun. As of 2015, about 100 billion stars have been identified in the Milky Way.

In the epic poem *Epic of Gilgamesh*, the Milky Way is created from the severed tail of the primeval salt water goddess Tiamat, set in the sky by Enlil, the Babylonian god, after slaying her. This story was once thought to have been based on an older Sumerian myth.

Ancient, naked eye observationsIn *De Caelo*, (384–322 BC) states that the astronomer Anaxagoras (c. 500–428 BC) and Democritus (460–370 BC) proposed that the Milky Way is the glow of stars not directly visible due to interstellar dust.

SizeThe Milky Way is one of the two largest galaxies in the Local Group (the other being the Andromeda Galaxy), although the size for its stars is smaller than that of the Andromeda Galaxy.

It is estimated to contain 100–400 billion stars and at least that number of planets. The Solar System is located at a radius of about 27,000 light-years (8.3 kpc) from the Galactic Center, on the inner edge of the Orion Arm, one of the spiral-shaped concentrations of gas and dust. How far away is the Milky Way galaxy from the center?



Polar view of the Milky Way Galaxy showing the location of the Solar System. As to our distance from the center of the galaxy, the best guess is that we are 26,000 to 28,000 light years from the center. The estimates vary due to uncertainty in the exact size of the galaxy and the time it takes the solar system to complete one orbit of our galaxy.

Where is the Sun located in the Milky Way galaxy?

Graphic view of our Milky Way Galaxy. The Milky Way Galaxy is organized into spiral arms of giant stars that illuminate interstellar gas and dust. The Sun is in a finger called the Orion Spur. Graphic view of our Milky Way Galaxy. The Milky Way Galaxy is organized into spiral arms of giant stars that illuminate interstellar gas and dust.

How is the Milky Way galaxy organized?

The Milky Way Galaxy is organized into spiral arms of giant stars that illuminate interstellar gas and dust. The Sun is in a finger called the Orion Spur. Overlaid is a graphic of galactic longitude in relation to our Sun. Credit: NASA/Adler/U. Chicago/Wesleyan/JPL-Caltech.

How can we determine the position of the Sun in the Milky Way?

"The position of the sun in the Milky Way can be further pinned down by measuring the distance to all the stars we can see. In the late 18th century, astronomer William Herschel tried to do this, concluding that the earth was in the center of a 'grindstone'-shaped cloud of stars.

What is the Milky Way galaxy?

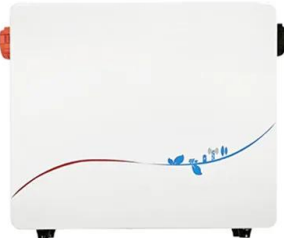
The Milky Way galaxy is a huge collection of dust, gas, and stars, including our Sun. The Earth is located inside this galaxy, so it is often called "our home galaxy" or simply "our galaxy."

How do astronomers map the Milky Way?

When describing their observations, astronomers divide the Milky Way into quadrants, with our sun at the center. Using that convention, we have traced spiral arms in the first three quadrants. To complete the map in the fourth quadrant, we need observations from the Southern Hemisphere.



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Solar System Facts

Our solar system is located in the Milky Way, a barred spiral galaxy with two major arms, and two minor arms. Our Sun is in a small, partial arm of the Milky Way called the Orion Arm, or Orion Spur, between the Sagittarius and Perseus ...

The Location of the Solar System in the Milky Way Galaxy

Polar view of the Milky Way Galaxy showing the location of the Solar System. As to our distance from the center of the galaxy, the best guess is that we are 26,000 to 28,000 light years from ...



In Depth , Our Solar System - NASA Solar System Exploration

The planetary system we call home is located in an outer spiral arm of the Milky Way galaxy. Our solar system consists of our star, the Sun, and everything bound to it by gravity - the planets ...

How did scientists determine our location within the Milky Way ...

Shapley concluded (and other astronomers have since verified) that the center of the distribution of globular clusters is the center of the Milky Way as well, so our galaxy looks ...



[A New Map of the Milky Way](#)

Astronomers figured out that we live in a spiral galaxy by measuring the motions of gas throughout the disk--the large, pancake-shaped region that makes up the main body of the Milky Way .

Where Are We In The Milky Way , Milky Way Facts

How many Solar Systems are in the Milky Way? Well, there is only one Solar System in our galaxy, as only ours is officially called so. But astronomers have found more ...



[360-Degree View of the Milky Way](#)

This video shows a continually-looping infrared view of our Milky Way galaxy, as seen by NASA's Spitzer Space Telescope. Transcript The icon in the lower right corner shows how the view ...





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