

Text for *The Transit of Venus* Video

Through the years, Venus has passed quietly between the earth and the sun.

Then, on a Sunday in 1639, young Jeremiah Horrocks was the first person to witness this transit of Venus with a telescope, and he recorded the planet's silhouette against the sun.

In ensuing centuries, astronomers used this rare alignment of earth, Venus, and the sun to answer a leading question of the day--how big is the solar system?

In anticipation of this rare event, nations sent out a fleet of explorers across the globe to time how long it takes the disk of Venus to move from one edge of the sun to the other. From this early gathering of data, one could calculate the number of miles to the sun and to all the planets

Enduring the hardships that come with exploration, international expeditions set out in the 18th century...and again in the 19th century...

When the last transit of Venus occurred in 2004, a fleet of spacecraft observed it from a new perspective, and people around the globe watched in awe.

The planets are once again aligning for the last transit of Venus in your lifetime. Though nearly as big as the earth, Venus is dwarfed by the massive sun. On June 5 or 6, depending on your location, you can witness this elegant dance of the planets.

Meanwhile, the Kepler spacecraft is looking outward in the direction of the Swan, near the Summer Triangle. There it detects the telltale dimming of stars--discreet and periodic dips in brightness that reveal the presence of planets orbiting their host stars.

The transit method is how astronomers now seek habitable planets capable of sustaining life. Notice, as the planet transits, there is a drop in the amount of light from the star, as depicted in the graph. So far, the Kepler spacecraft has found hundreds of candidate systems.

In the past, transits of Venus helped us to determine the size of the solar system, and today the transit method helps us to discover new planets. One day, we might find a planet similar to the earth.

In June, 2012, come, witness the transit of Venus. Enjoy the science. And marvel at the solar system in motion.

<http://www.transitofvenus.org/component/content/article/75-planetarium/323-full-dome-video>