

Planet Earth To Catch Up With Red Planet Mars

Astronomers at the Pisgah Astronomical Research Institute (PARI) note that in late January we, in our eternal orbit around the Sun, will once again catch up with and pass the red planet Mars.

Mars, since it is farther from the Sun, moves more slowly in its orbit. While Earth takes only 365¼ days to orbit our star, Mars takes 687 days. Thus, every 780 days Earth "laps" Mars and catches up with it once again.

The last time we passed by Mars was on Christmas Eve 2007 so we are due to catch this fascinating planet

again. Astronomers call this opposition because, as Earth passes Mars, the red planet is opposite the Sun in the sky.

Because the orbits of both Mars and Earth are not exact circles, the distance between the two varies from one opposition to another. You may remember all the excitement in 2003 when Earth approached Mars on Aug. 27 closer than it will for the next 60,000 years. It was a little less than 35 million miles away!

This year Earth will be closest to Mars on Jan. 27 at just under 62 million miles. Two days later is the actual

date of opposition when we pass the red planet. While it might seem logical that we would be closest to a planet as we passed it, there is a slight difference due to the non-circular shapes of the orbits of both Mars and Earth.

When a planet is opposite the Sun in the sky, i.e., in opposition, it rises about sunset and sets about sunrise and is very favorably placed for observing. Mars is already obvious in the evening sky. Rising shortly before 8 p.m. EST, it can be observed as a bright red "star" just to the west of the "sickle" that forms the head

and chest of Leo, the lion. With a moderate size telescope, one can begin to detect some of the surface features such as dark areas or bright polar caps. Mars is the only planet on which we can observe surface features from Earth. Mercury is too close to the Sun while Venus and the gas giant planets are all surrounded by gaseous atmospheres.

So, put on warm clothes and go out to observe this most fascinating of the planets.

About PARI

PARI is a not-for-profit foundation established in 1998. Located in the Pisgah

Forest, PARI offers educational programs at all levels, from K-12 through post-graduate research. The institute is affiliated with the 16-campus University of North Carolina system through

PARSEC, a UNC Center hosted at PARI, and is a member of the NC Grassroots Museum Collaborative. For more information about PARI and its programs, visit www.pari.edu.