

An Englishman, Jeremiah Horrocks, made the first European observation of a transit of Venus from his home in Much Hoole, England, in the winter of 1639. Horrocks had read about Johannes Kepler who predicted transits in 1631 and 1761, and a near miss in 1639 when Venus would pass very close to the Sun, but not actually in front of it. Horrocks made corrections to Kepler's calculation for the orbit of Venus and predicted that 1639 would not be a near miss, but an actual transit. He was uncertain of the exact time, but calculated that the transit would begin about 3:00 pm. He focused the image of the Sun through a simple telescope onto a card, where the image could be safely observed.

After watching for most of the day with clouds obscuring the Sun often, he was lucky to see the transit as clouds cleared at about 3:15 pm, just half an hour before sunset. The observations allowed him to make a well-informed estimate as to the size of Venus, but more importantly, using geometry, to calculate the distance between the Earth and the Sun which had not been known accurately at that time. He was the first of many people who used transit observations to try to determine the distance from the Sun to the Earth.