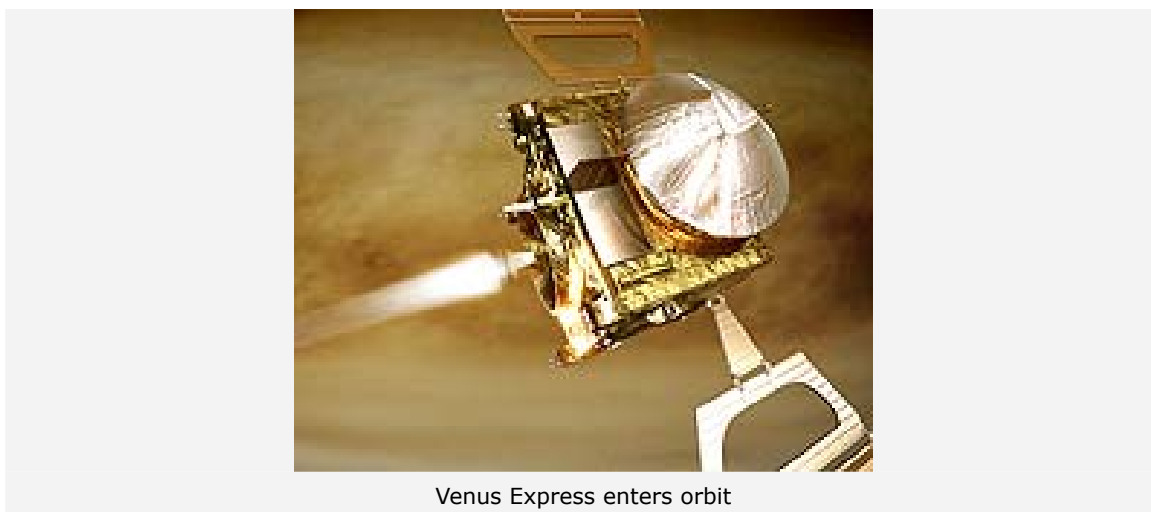


News-Archiv

Venus Express enters orbit around our planetary neighbour

11 April 2006



Venus Express enters orbit

Europe has arrived at Venus. A vital manoeuvre of the ESA Venus Express probe was completed this morning and it entered orbit around our neighbouring planet successfully.

After a five-month journey through the inner Solar System at a speed of 29 000 kilometres per hour, Venus Express had to be first rotated by the mission specialists at the European Space Operations Centre (ESOC) in Darmstadt, Germany. Known as a 'slew', this rotation took place at 8:03 CEST (Central European Summer Time) and re-oriented the spacecraft to position the main engine against the direction of motion, and thus set the conditions for the next manoeuvre.

Venus Express fired its main engine at 09:17 CEST for a 50-minute burn, which reduced its relative velocity toward the planet from 29 000 km/h to about 25 000 km/h. Approximately 570 kilograms of fuel were used - this one manoeuvre using most of the fuel supply of the probe. At this lower speed, Venus Express could be 'caught' by the gravity of the planet.

The initial orbit for Venus Express will be highly elliptical at first. During these first orbits, the probe will be only 250 kilometres above the surface of the planet at its closest point but at a height of 220 000 kilometres from Venus at its furthest.

The probe will take five days to manoeuvre into its operational orbit and, on 16 April, the main engine will be again ignited and lower the orbit to a maximum of 66 000 kilometres above the surface. After further burns, a 24-hour polar orbit will have been established.

Once Venus Express is positioned in this fixed orbit, fine control of the probe is controlled by eight small attitude thrusters, capable of 10 Newtons each.

/specials/vex_oi/vex_oi.swf

Animation: © ESA - AOES Medialab

In May 2006 Venus Express will begin its scientific work. Onboard the probe are several scientific experiments which will observe and investigate the planetary environment of Venus, its dense and

complex atmosphere as well as its hot surface. The German Aerospace Center (DLR) contributed significantly to the development of the camera and spectrometer onboard Venus Express.

Contact details for image and video enquiries as well as information regarding DLR's terms of use can be found on the DLR portal imprint.