



Venus Express - One Year in Orbit

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After a launch from the Baikonur cosmodrome, Kazakhstan, 9 November 2005 and a five-month cruise, the Venus Express spacecraft reached Venus on 11 April 2006. The spacecraft reached its final operational, 24 hour polar orbit on 5 May 2006. During the first year in operation the spacecraft has sent back a wealth of new and exiting information. The objective of the Venus Express mission is to carry out a comprehensive study of the atmosphere of Venus, the plasma environment and its interaction with the solar wind, and to study certain aspects of the surface of the planet. A well optimised payload composed of two multi channel spectrometers, an IR-Vis-UV imaging spectrometer, a wide angle camera, a multi-sensor energetic particle instrument, a magnetometer, and a radio science experiment, allows all elements of the objectives to be addressed at a sufficient depth. Venus Express has been developed in record time, less than four years, using an efficient concept of re-using elements of recently developed spacecraft, mainly Mars Express and Rosetta. The first data has shown a highly dynamic atmosphere, including close-ups of the southern polar double vortex, indeed topics of high interest and among the top priority objectives. The high resolution spectrometers are finding several minor species at various depths of the atmosphere, including D/H ratios as function of altitude. Venus Express is the first mission fully exploiting the Infrared spectral windows, in order to map the atmosphere in three dimensions. The data returned from the mission during the first year is of extraordinary quality and has already led to new insights in several fields. This talk will summarize the the major findings and report on the status of the spacecraft and the plans for the future activities.