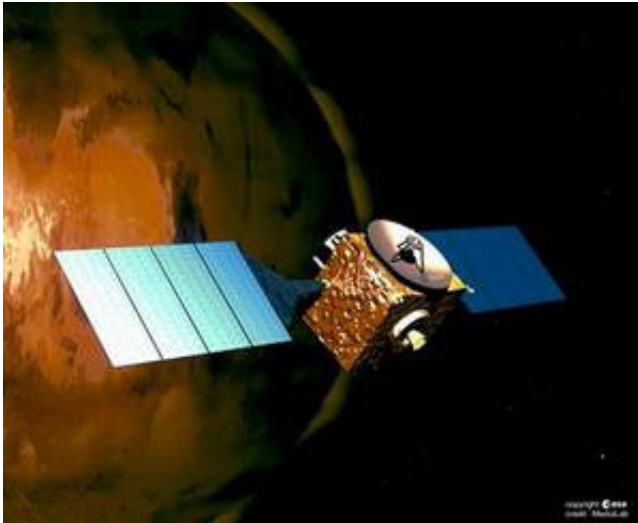


Mars Express instrument under investigation

September 13 2005



ESA has started a technical investigation into the Planetary Fourier Spectrometer (PFS) on board Mars Express, after a problem developed in the instrument a few months ago.

Image: Artist's impression of Mars Express

Vibration effects (induced by spacecraft activities) have been suggested as a cause for the observed behaviour. However no source has yet been identified and other causes internal to the instrument cannot be fully ruled out.

In order to establish the exact cause of the problem, ESA's Mars Express team is setting up an investigations board involving experts from the Mission Science Working Team, ESA, industry and the Italian Space Agency (ASI).

This could lead to resuming scientific observations using modified procedures but, until all existing data and a number of additional measurements currently being planned have been examined, it is too early to draw a conclusion on the operational status of the PFS instrument.

The PFS instrument has performed without any such problems for almost two years, following the launch of Mars Express in June 2003. In this period, the instrument has provided much new information on the global composition and movement of the Martian atmosphere.

Even if it is found that PFS is no longer fully functional, it is only one element in the scientific package on board Mars Express. The other six instruments (HRSC, OMEGA, ASPERA, SPICAM, MARSIS, MaRS) are all currently working well and are providing new insights into the Red Planet and its evolution. These remaining instruments will continue the scientific success of the Mars Express mission.

ESA's first mission to the Red Planet, Mars Express, was launched in June 2003. It comprised an orbiter carrying seven scientific instruments to probe the planet's atmosphere, structure and geology, including a search for evidence of hidden water. The main spacecraft released the UK's small Beagle 2 lander to gather and test rock and soil samples on the surface. As well as its science objectives, Mars Express also provides relay communication services between Earth and landers deployed on the surface by other nations, thus forming a centrepiece of the international effort in Mars exploration.

Mars Express is a pilot project for new methods of funding and managing ESA space missions, built more quickly and launched at a much lower cost than any previous mission of a similar nature.

Source: ESA

Citation: Mars Express instrument under investigation (2005, September 13) retrieved 18 April 2024 from <https://phys.org/news/2005-09-mars-instrument.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.