

chasing comets...



ROSETTA

Rosetta is the first space mission to attempt to land on a comet.

Launched in January 2003, Rosetta will take eight years to catch Comet Wirtanen as it flies towards the Sun. In 2011, Rosetta will manoeuvre into orbit around

the comet's nucleus and drop a lander down onto the surface. For the next two years, Rosetta will travel with Wirtanen and monitor how the comet changes as it gets closer to the Sun. Scientists and engineers from 17 organisations in the UK are involved in the Rosetta mission.

mission to the moon...



SMART-1

SMART-1 is travelling to the Moon to test new technologies for the European Space Agency.

After launch in spring 2003, an innovative ion thruster will propel SMART-1 in a spiral out towards the Moon, arriving in the summer of 2004. Once in lunar orbit,

SMART-1's miniature instruments will send back data about the Moon's surface, orbit and environment. The UK is contributing D-CIXS, a novel instrument that will take X-ray images of the Moon and investigate the chemical make-up of the lunar surface.

monitoring Mars...



MARS EXPRESS

Mars Express is the European Space Agency's first mission to the Red Planet.

Arriving in December 2003, the Mars Express orbiter will investigate the Martian surface and atmosphere. It will also use radar to look beneath the surface for underground lakes and ice

frozen in the planet's crust. Beagle 2, a lander designed and built in the UK, carries an on-board laboratory that will analyse the chemistry of the Martian surface and atmosphere. Samples drilled from the Martian soil may reveal the chemical signatures of life...

surveying Saturn...



CASSINI/HUYGENS

In July 2004, NASA's Cassini spacecraft begins its four-year tour of Saturn and its moons.

In December 2004, ESA's Huygens probe will separate from Cassini and set off towards Saturn's moon, Titan. The probe will descend through Titan's thick

orange atmosphere, discovering what is hidden beneath. Scientists from the UK are involved in six of Cassini's instruments and two aboard the Huygens probe. When Huygens descends, the first instrument to hit Titan's surface will have been made in the UK.

FURTHER INFORMATION

If you would like to know more about the UK's involvement in planetary missions, try the following resources:

- WORLD WIDE WEB SITES**
- <http://www.esa.int>
 - <http://www.nasa.gov>
 - <http://sci.esa.int/home/rosetta/index.cfm>
 - <http://sci.esa.int/marsexpress/>
 - <http://www.beagle2.com/>
 - <http://sci.esa.int/home/smart-1/index.cfm>
 - <http://www.jpl.nasa.gov/galileo/>
 - <http://saturn.jpl.nasa.gov/index.cfm>
 - <http://sci.esa.int/home/venusexpress/index.cfm>
 - <http://sci.esa.int/home/huygens/index.cfm>
 - <http://www.bx.ac.uk/Mirrors/nineplanets/>

BOOKS
The Cambridge Photographic Guide to the Planets
Fredric W. Taylor
Cambridge University Press, 2001

Lifting Titan's Veil: Exploring the Giant Moon of Saturn
By Ralph Lorenz & Jaqueline Mitton
Cambridge University Press, 2002

Mission Jupiter: The Spectacular Journey of the Galileo Space Probe
Daniel Fischer
Springer-Verlag New York Inc, 2001

Venus
Sir Patrick Moore
Cassell Illustrated, 2002

Mars: The Inside Story of the Red Planet
Heather Couper & Nigel Henbest
Headline, 2001

The New Solar System
Edited by J. Kelly Beatty, Carolyn Collins Petersen & Andrew Chaikin
Cambridge University Press, 1999

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PARTICLE PHYSICS AND ASTRONOMY RESEARCH COUNCIL

The Particle Physics and Astronomy Research Council (PPARC) is the UK Government strategic science investment agency for research in:

- PARTICLE PHYSICS
- ASTRONOMY
- SPACE SCIENCE

This support is provided by funding UK researchers and by ensuring that they have access to world-class facilities in the UK and overseas. The Council pays the UK's subscription to the science programmes of the European Southern Observatory (ESO), the European Laboratory for Particle Physics (CERN), and the European Space Agency (ESA).

PPARC recognises the importance of its science in post-graduate training, and in motivating young people towards careers and an interest in science generally.

PPARC publishes information on a variety of topics related to physics and astronomy, to help increase public awareness of the UK's achievements in science and technology. Find out more by visiting the PPARC website: <http://www.pparc.ac.uk>



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UK GOES TO THE PLANETS



PPARC

jump into Jupiter...



GALILEO

In September 2003, Galileo ends its eight-year tour of the Jovian system with a dive into Jupiter's crushing atmosphere.

Galileo has been so successful that NASA has extended the mission several times. In addition to sending back stunning images,

Galileo has monitored volcanism on Io, dropped a probe down through Jupiter's atmosphere and provided evidence for oceans beneath the surfaces of Europa, Ganymede and Callisto. Scientists from the UK have been involved in analysing data from three of Galileo's instruments.

venture to Venus...



VENUS EXPRESS

Venus Express will be the first spacecraft to visit Venus in over 10 years.

The European Space Agency mission will carry many of the same instruments as Rosetta and Mars Express. This means that data from Venus, Mars and Comet

Wirtanen will be easier to compare. Venus Express will follow an eccentric orbit, so that it can take global measurements from a distance as well as detailed close-ups. Scientists from the UK are involved in developing several instruments to explore the Venusian environment.