



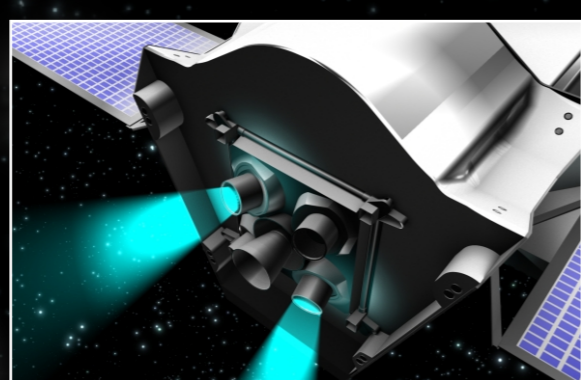
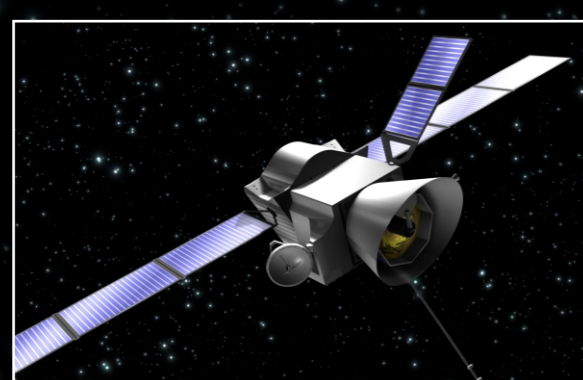
BEPICOLOMBO

Comprehensive exploration of Planet Mercury

BepiColombo, an ESA mission in cooperation with Japan, will explore Mercury, the planet closest to the Sun.

Europe's space scientists have identified the mission as one of the most challenging long-term planetary projects, because Mercury's proximity to the Sun makes it difficult for a spacecraft to reach and survive in the harsh environment. The scientific interest of this mission lies in the need to acquire an accurate set of observations, only achievable in close vicinity of the planet, to better understand Mercury and to enhance our overall understanding of the Solar System.

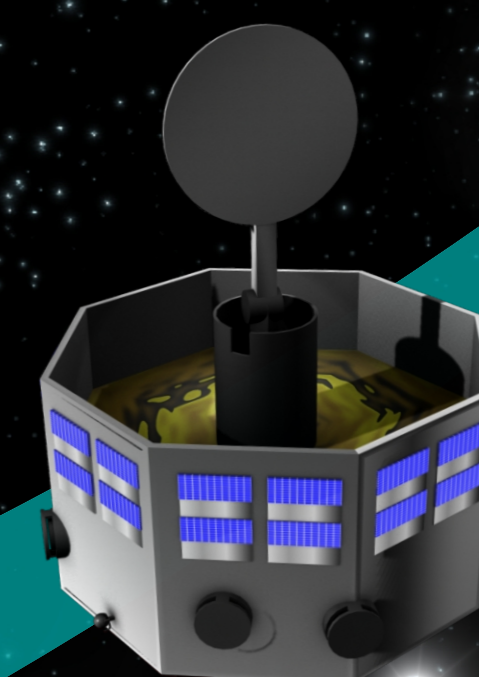
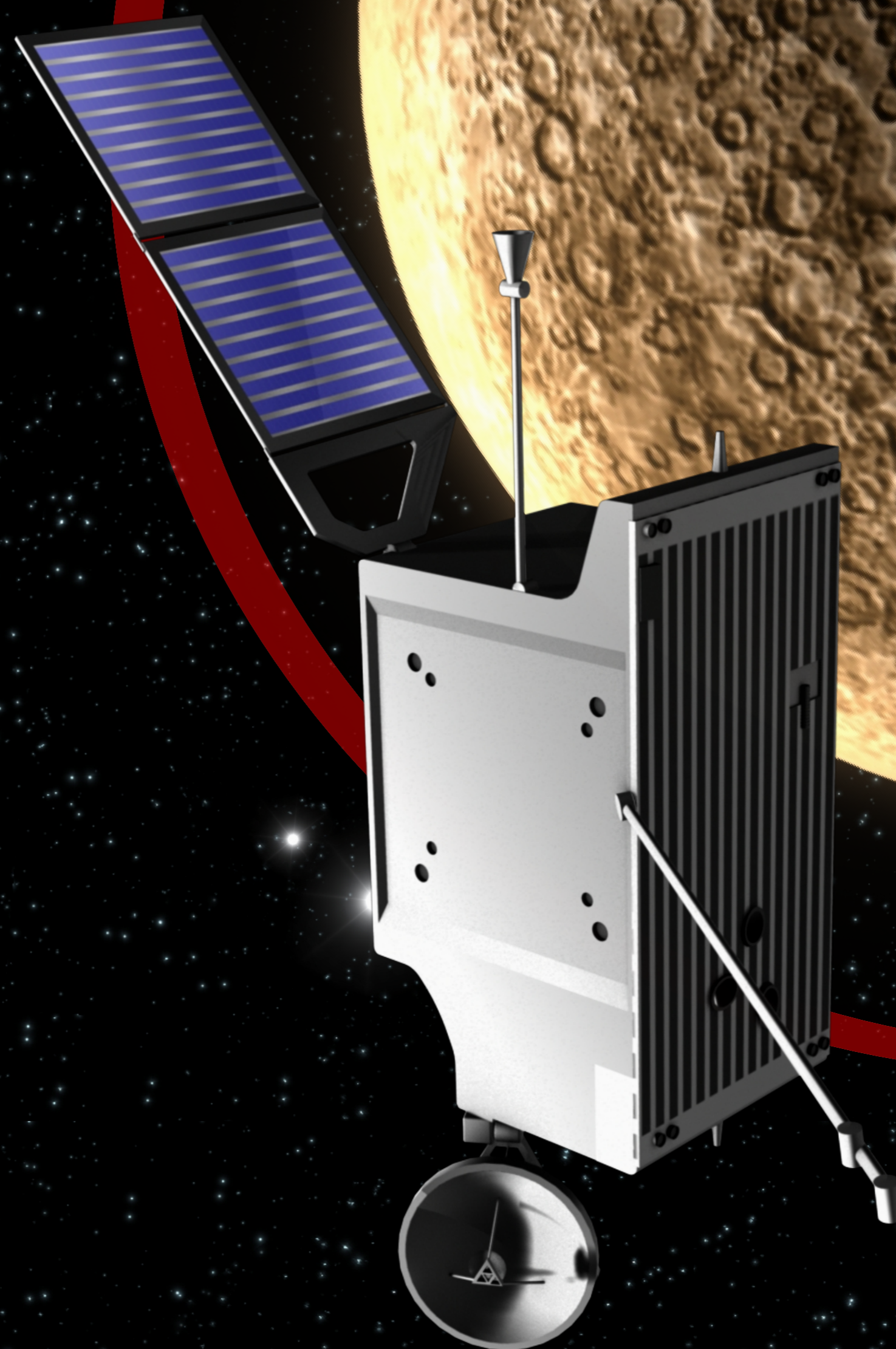
The mission will consist of two separate spacecraft that will orbit the planet. ESA is building one of the main spacecraft, the Mercury Planetary Orbiter (MPO), and the Japanese space agency ISAS/JAXA will contribute the other, the Mercury Magnetospheric Orbiter (MMO).



The journey to Mercury will begin with the launch aboard Soyuz-Fregat from Kourou in August 2013. The interplanetary trajectory requires an enormous amount of braking energy against the Sun's gravity, which increases with proximity to the Sun. BepiColombo will accomplish this by making clever use of the gravity of the Moon, Earth, Venus and Mercury itself and by using the efficient propulsion method with solar electric thrusters, a method proven by ESA's SMART-1 mission.

Following arrival at Mercury after a 6 years cruise through space, BepiColombo will devote its time to the mission objectives:

- Origin and evolution of a planet close to the parent star
- Mercury as a planet: form, interior structure, geology, composition and craters
- Mercury's vestigial atmosphere (exosphere): composition and dynamics
- Mercury's magnetized envelope (magnetosphere): structure and dynamics
- Origin of Mercury's magnetic field
- Test of Einstein's theory of general relativity



European Space Agency
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More information can be found on:

<http://www.esa.int/science/bepicolombo>

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