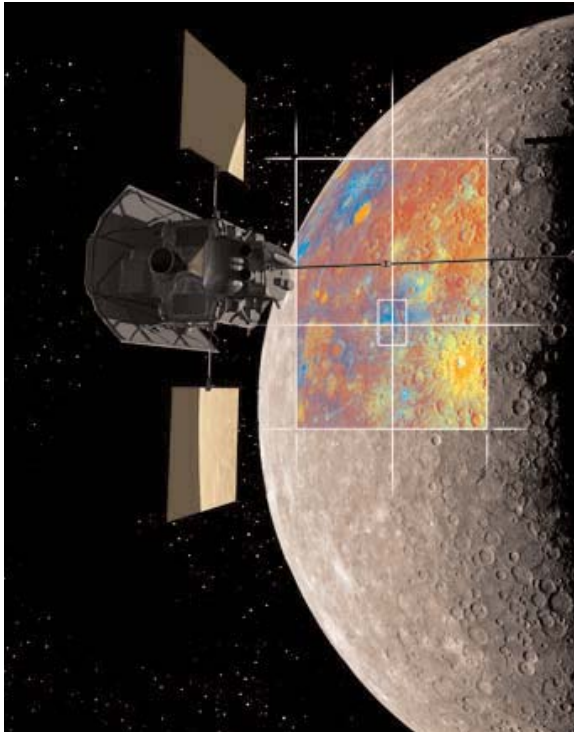


## MESSENGER INFORMATION SHEET



### *The MESSENGER Mission to Mercury*

MESSENGER is an unmanned U.S. spacecraft that will be launched in 2004 and will arrive at the planet Mercury in 2011, though it will not land. Instead, it will make its observations of the planet from orbit. MESSENGER will never return to Earth, but will stay in orbit around Mercury to gather data until sometime in 2012.

MESSENGER is an acronym that stands for "MErcury Surface Space ENvironment, GEochemistry and Ranging," but it is also a reference to the name of the ancient Roman messenger of the gods: Mercury, who, it was said, wore winged sandals and was somewhat of a trickster.

MESSENGER will be the second spacecraft ever to study Mercury: In 1974 and 1975 Mariner 10 flew by the planet three times and took pictures of about half the planet's surface. MESSENGER will stay in orbit around Mercury for one Earth-year, during which time it will make close-up and long-term observations, allowing us to see the whole planet for the first time.

One of the biggest problems MESSENGER will face is the intense heat it will encounter at Mercury. Visible and infrared radiation from the Sun can be as much as 22 times as strong as on the surface of Earth. In addition, the temperatures on Mercury's surface can be more than 400°C during the day. At this temperature, the surface will emit infrared radiation, becoming a second major source of heating for the spacecraft. MESSENGER engineers have had to figure out how to keep the spacecraft from heating up too much. They have designed a sunshade which will be pointed at all times toward the Sun, so that MESSENGER's instruments are always shaded from the Sun. To overcome the problem of infrared radiation from Mercury's surface, MESSENGER's orbit around the planet has been designed so that the temperatures in the spacecraft will remain at safe levels at all times.

For more information about the MESSENGER mission to Mercury, visit: <http://messenger.jhuapl.edu/>

