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# BepiColombo — Mission Updates and Status of the MPO

RITA SCHULZ[1], JOHANNES BENKHOFF[1], HARRI LAAKSO[1], ANAMARIJA STANKOV[1]

[1] *European Space Agency*

Mercury bears information, which unraveled might be the key to understanding the origin and early evolution of our solar system. The necessary details of its properties can, however, only be provided by a space mission. The BepiColombo mission to Mercury is the planetary mission of the Cosmic Vision Programme of the European Space Agency (ESA). It has been defined as a joint project between ESA and the Japanese Aerospace Exploration Agency (JAXA). The Mission consists of two orbiters, the Mercury Planetary Orbiter (MPO) and the Mercury Magnetospheric Orbiter (MMO), which will be launched together on a single Soyuz-Fregat 2-1B. The launch of the MPO/MMO complement is foreseen for August 2013, with an arrival at Mercury in August 2019. The 6 years cruise phase is achieved with a combination of 7 fly-bys (moon, 2 Venus, 4 Mercury) and solar electric propulsion. The mission definition has been completed and the scientific payload of both spacecraft has been selected. The MPO payload comprises 11 instruments/instrument packages; the MMO payload consists of 5 instruments/instrument packages. Together, the scientific payload of both spacecraft will provide the detailed information necessary to understand the process of planetary formation and evolution in the hottest part of the proto-planetary nebula as well as the similarities and differences between the magnetospheres of Mercury and the Earth. The MPO will focus on a global characterization of Mercury through the investigation of its interior, surface, exosphere and magnetosphere. In addition, it will be testing Einstein's theory of general relativity. The MMO will focus on Mercury's wave and particle environment. Major effort was put into optimizing the scientific return by defining the payload complement such that individual measurements can be interrelated and complement each other. The status of the BepiColombo mission will be given with special emphasis on the MPO and its payload complement.