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BEPICOLOMBO – MPO Scientific Aspects and system update

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The Mercury Planetary Orbiter (MPO) on BepiColombo 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. 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. In November 2004, the MPO scientific payload has been officially approved by the SPC. The MPO scientific payload comprises eleven instruments/instrument packages. Together with the scientific payload of the Mercury Magnetospheric Orbiter (MMO), both spacecrafts will provide the detailed information necessary to understand Mercury and its magnetospheric environment and to find clues to the origin and evolution of a planet close to its parent star. A detailed overview of the status of the MPO with special emphasis on the scientific payload will be presented.