Geophysical Research Abstracts
Vol. 19, EGU2017-15149, 2017
EGU General Assembly 2017

Planning Bepicolombo MPO Science Operations to study Mercury Interior

Sara De La Fuente (1), Angela Carasa (1), Iñaki Ortiz (1), Pedro Rodriguez (1), Mauro Casale (1), Johannes Benkhoff (2), and Joe Zender (2)

(1) ESA/ESAC, Villanueva de la Canada, Spain (sfuente@sciops.esa.int), (2) ESA/ESTEC, Noordvijk, The Nederlands (johannes.benkhoff@esa.int)

BepiColombo is an Interdisciplinary Cornerstone ESA-JAXA Mission to Mercury, with two orbiters, the ESA Mercury Planetary Orbiter (MPO) and the JAXA Mercury Magnetospheric Orbiter (MMO) dedicated to study of the planet and its magnetosphere.
The MPO, is a three-axis-stabilized, nadir-pointing spacecraft which will be placed in a polar orbit, providing excellent spatial resolution over the entire planet surface. The MPO's scientific payload comprises 11 instrument packages, including laser altimeter, cameras and the radio science experiment that will be dedicated to the study of Mercury's interior: structure, composition, formation and evolution.
The planning of the science operations to be carried out by the Mercury's interior scientific instruments will be done by the SGS located at the European Space Astronomy Centre (ESAC), in conjunction with the scientific instrument teams. The process will always consider the complete nominal mission duration, such that the contribution of the scheduled science operations to the science objectives, the total data volume generated, and the seasonal interdependency, can be tracked.
The heart of the science operations planning process is the Observations Catalogue (OC), a web-accessed database to collect and analyse all science operations requests. From the OC, the SGS will first determine all science opportunity windows compatible with the spacecraft operational constraints. Secondly, only those compatible with the resources (power and data volume) and pointing constraints will be chosen, including slew feasibility.