



BepiColombo MPO-MMO coordinated observations

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Using simultaneous two-point measurements from two satellites, ESA-JAXA BepiColombo mission will offer an unprecedented opportunity to investigate magnetospheric and exospheric dynamics at Mercury as well as their interactions with solar radiation and interplanetary dust. Many scientific instruments onboard the two spacecraft will be completely, or partially, devoted to studying the close environment of the Mercury planet as well as the complex processes that govern it. The specific orbits of the two spacecraft and the comprehensive scientific payload will make this mission a great improvement with respect to the successful mission MESSENGER that ended in 2015. Coordinated measurements by different onboard instruments will permit a wider range of scientific questions to be addressed than those that could be achieved by the individual instruments acting alone. These joint observations are of key importance because many phenomena in Mercury's environment are temporarily and spatially varying. Examples of possible coordinated observations are described in the following by analyzing the required geometrical conditions, pointing, modes, timing and interfaces between the two European (SGS) and Japanese (SSOC) science ground segments.