

# Science of Mercury Magnetospheric Orbiter

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Mercury Magnetospheric Orbiter is a part of the BepiColombo mission to Mercury. MMO will perform plasma observations of unprecedented quality in this mostly unexplored region. The high quality data will not only enable us to draw a sketch of the dynamics of the magnetosphere but also contribute in a more general context, that is, to our fundamental understanding of the plasma Universe. The primary targets from this point of view would be (1) study of the interplanetary shocks having much higher Mach numbers than expected at the earth, (2) study of the magnetotail dynamics in the small-scale environment, and (3) study of possibly totally new boundary layer dynamics. Review of the science of MMO from the most recent perspective in space plasma physics, i.e. cross-scale coupling, will be given at the talk.