

ベピコロombo水星探査計画の現状と新たな科学課題の整理

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Current status and updated science goals of Mercury exploration project BepiColombo

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After the successful observation by the first Mercury orbiter MESSENGER ended in 2015, Mercury becomes one of the most curious planets to investigate. MESSENGER raised new science issues, such as the northward offset of planetary dipole magnetic field, the highly dynamic magnetosphere, and the year-to-year constant exosphere. These outstanding discoveries still remain as open issues due to some limitations of instruments onboard MESSENGER and its extended elliptical orbit with aphelion in southern hemisphere. The next Mercury exploration project BepiColombo will address these open issues. BepiColombo is an ESA-JAXA joint mission to Mercury with the aim to understand the process of planetary formation and evolution as well as to understand Mercury's extreme environment in the solar system. Two spacecraft, i.e. the Mercury Planetary Orbiter (MPO) and the Mercury Magnetospheric Orbiter (MMO), will be launched in October 2018 by an Ariane-5 launch vehicle and arrive at Mercury in December 2025. The mechanical test in a complete stack configuration has been performed in the ESA test center and successfully finished. Here we present the latest development status of BepiColombo and updated science goals addressed by MMO.