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2022　03)ISEE / CICR International Workshop
List

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＊所属・職名は2023年3月現在
＊Affiliation and Department displayed are current as of March 2023.

(注1):新型コロナウイルスの影響で中止／Cancelled due to COVID-19
(注2):中止／Cancelled　(注3):延期／Postponement

研究代表者 Principal Investigator	所属機関* Affiliation	職名* Job title	研究課題名 Project Title	頁 Page	備考 Remarks
村上　豪	宇宙航空研究開発機構	助教	Contribution of the BepiColombo mission to heliospheric system science	80	
Leka　KD	NorthWest Research Associates, USA	Senior Research Scientist	What is a Magnetic Flux Rope? Do we know it when we have one?	81	(注3)

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Contribution of the BepiColombo mission to heliospheric system science

Go Murakami (Japan Aerospace Exploration Agency)

International Mercury exploration mission BepiColombo was launched in 2018 and will arrive at Mercury in 2025. During the interplanetary cruise phase, BepiColombo will range from 1.2 AU to 0.3 AU, and will stay in the inner heliosphere for long time. BepiColombo started its science observations during the interplanetary cruise phase in 2020. The initial results showed its enough performance to observe solar wind electrons, IMF, and solar energetic particles (SEPs) even in the composite spacecraft configuration. Especially in 2021 two spacecraft of BepiColombo, Mercury Planetary Orbiter (MPO) and Mercury Magnetosphere Orbiter (Mio), successfully detected many SEP events. BepiColombo can contribute to leading and expanding the heliospheric system science. In addition to BepiColombo, NASA's Parker Solar Probe and ESA's Solar Orbiter are also exploring the inner heliosphere. Coordinated observations between these multi spacecraft have been planned and performed. In March 2021, we also coordinated a joint observation campaign of the solar corona and solar wind with BepiColombo, Akatsuki, and Hinode. The Center for Heliospheric Science was built at ISEE in April 2022 and now it is a great opportunity for us to study the inner heliosphere.

We held the international workshop "Contribution of the BepiColombo mission to heliospheric system science" from 28 November to 2 December 2022 at ISEE. In this international workshop, we had 13 participants and covered the following topics: updated results of BepiColombo cruise observations (both Mio and MPO), coordinated observation with other spacecraft (e.g., Akatsuki, Parker Solar Probe, and Solar Orbiter), ground based observation (interplanetary scintillation), and simulation (SUSANOO). We closely discussed the collaborative studies across the above topics. We also listed up potential publications and discussed submission plan of our special issue to Earth, Planets, and Earth. We plan to submit the first overview paper by the end of November 2023 and then other dedicated papers: e.g., cross calibration between Mio's and MPO's radiation monitors, solar wind measurements by BepiColombo, heliospheric current sheet in comparison between BepiColombo and SUSANOO, coordinated observation by BepiColombo, Akatsuki, and Hinode, and multi-spacecraft observation of each SEP and CME event. The follow-up meetings will be held every two months and we plan to hold another workshop in FY2023.

(Form 3-2)

What is a Magnetic Flux Rope? Do we know it when we have one?

Leka KD
NorthWest Research Associates, USA

Postponement