

ERG, RBSP, ORBITALS によるジオスペース探査の国際協力について

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International collaboration of ERG, RBSP, and ORBITALS

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In the inner magnetosphere, energetic populations of trapped particles that contribute to the radiation belts and ring current are drastically changed by the interplanetary disturbances. Despite the recent advance of in-situ satellite measurements, this region has remained a missing region of comprehensive particle and field observations essential to understand physical processes because of several difficulties in fundamental measurements. To overcome this situation, radiation-belt exploration missions at the equatorial plane are proposed as a part of an international joint program named the International Living With a Star (ILWS) toward the next solar maximum period. We are now planning the ERG (Energization and Radiation in Geospace) project in Japan, and the RBSP (Radiation Belt Storm Probe) and ORBITALS (Outer Radiation Belt Injection, Transport, Acceleration and Loss Satellite) satellites are proposed by US and Canada, respectively. The RBSP and ORBITALS missions share the main part of scientific objectives of the ERG mission and fulfill the most critical objectives for the multi-point investigations. This talk will outline the RBSP and ORBITALS missions and will also show how the combination of the RBSP, ORBITALS, and ERG missions will create new opportunities.