Preface

This Special Issue of the Journal of Geomagnetism and Geoelectricity contains papers on the Dynamics of the Magnetotail and the High-Latitude Nightside Ionosphere. Most of these papers were presented at the Symposium 213/303 of IAGA (International Association of Geomagnetism and Aeronomy) that was held at Boulder, Colorado, U.S.A. on the 3rd and 4th of July, 1995.

The magnetotail is one of the most important elements of the magnetosphere. It is the region where the energy received from the solar wind is stored as magnetic energy and converted to particle energy. The physics of this energy storage and conversion is strongly influenced by the magnetotail's coupling with the high-latitude ionosphere. The papers in this issue address a wide variety of aspects on the above subject. They include: plasma sheet convection and energization, ion and electron streaming in the tail lobe, kinetic properties of and waves in magnetotail plasmas, plasmoid/flux rope formation and development, single particle tracing during magnetotail acceleration events, solar wind control of the tail structure and surface, mapping of steady and dynamic tail structures onto the ionosphere, causes and consequences of upflowing ions from the nightside ionosphere, signatures of the tail reconnection in the ionosphere.

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