Preface

This special issue of Nankyoku Shiryo (Antarctic Record) is the Proceedings of the First Symposium on Coordinated Observations of the Ionosphere and the Magnetosphere in the Polar Regions, which was held from February 8th through 10th in 1978 at National Institute of Polar Research (NIPR).

This symposium is a continuation of previous NIPR symposia on Antarctic sounding rocket experiments, but the whole scope of the symposium is much broadened to cover ground-based, satellite-borne as well as rocket-borne observations of polar magnetospheric and ionospheric phenomena and synthetic studies of these observational results on the basis of magnetospheric and ionospheric physics.

This is partly because sounding rocket experiments at Syowa Station in Antarctica have already become a routine-base research program in coordination with various ground-based observations to attack the polar magnetospheric and ionospheric phenomena, and partly because a new experimental facility to receive real time information from polar-orbiting satellites *in situ* has been very effectively started there.

Thus, the items in the symposium as well as this proceeding's volume are classified into five groups, namely, (a) precipitating particles and auroras, (b) electric fields and current system, (c) wave-particle interactions, (d) ULF and VLF waves in the magnetosphere and (e) the polar ionosphere. Since this symposium was held for the purpose of the first synthetic discussion of various results of International Magnetospheric Study (IMS) programs performed at Syowa Station and its adjacent stations in Antarctica, plannings of possible research programs and relevant instrumentations in the future also are discussed as item (f).

It is hoped therefore that this volume of Proceedings of the Symposium can contribute to the progress in understanding the polar magnetospheric and ionospheric physics as the first milestone of IMS results in Antarctica.

Takesi NAGATA
Director
National Institute of Polar Research