Foreword

The Fourth Symposium on Antarctic Meteorites was held on February 21 and 22, 1979 at the National Institute of Polar Research (NIPR), Tokyo. For the first time in a series of the NIPR symposia on Antarctic meteorites, oversea scientists who received Antarctic meteorite samples from NIPR were invited to this fourth symposium. Meteorites samples discussed in the fourth symposium are either those which were retrieved by the members of Japanese Antarctic Research Expeditions (JARE) from Meteorite Ice Field near Yamato Mountains or those which were retrieved by the members of Japan-U.S. joint parties from Allan Hills ice field area in Victoria Land.

This special issue of Memoirs of National Institute of Polar Research is published as the Proceedings of the Fourth Symposium on Antarctic Meteorites which consisted of 23 individual scientific papers. These 23 papers may be classified into 2 papers on the Antarctic field works to find and retrieve meteorite samples, 11 papers on petrology and/or mineralogy, 6 papers on chemistry and 4 papers of physical properties of the Antarctic meteorites. An important feature of these Antarctic meteorite samples will be that they had been kept in and/or on the Antarctic ice sheet without any artificial contamination and were retrieved and transported with the best possible care to minimize possible chemical and physical contaminations caused by human activities. In this regard, mineralogical, chemical and physical analyses of the Antarctic meteorites can give rise to the most reliable data. For example, amino acids discovered in a Yamato carbonaceous chondrite can be believed as genuine organic components in the extraterrestrial material.

In late 1978 and early 1979, field work efforts to find and retrieve more meteorites were continued by the 1978–79 Japan-U.S. joint party on the bare ice area near Allan Hills in Victoria Land with great success. In autumn of 1979, similar field works to collect Antarctic meteorites were continuously carried out by the 1979–80 JARE party in Meteorite Ice Field in East Antarctica with full success. As it was so in the past, the new collections of Antarctic meteorites in 1978–1979 also may contain some unique and particular meteorites which have never been seen in the existing meteorite collections. Results of studies on these newly found Antarctic meteorites will be successively reported to the NIPR annual symposia on Antarctic meteorites in the future.

It is hoped that this fourth volume of collected scientific papers on Antarctic meteorites will be valuable to those who are interested in meteoritic sciences and those who are concerned with Antarctica too, and that this volume becomes Number 4 milestone in a steady progress route of comprehensive studies on Antarctic meteorites.

Takesi NAGATA, Director
National Institute of Polar Research