Foreword

This volume is the Proceedings of the Tenth Symposium on Antarctic meteorites which was held on March 25–27, 1985, at the National Institute of Polar Research (NIPR), Tokyo. The tenth symposium was held as an anniversary one and a first special session was convened as an attempt to report the result of the first international consortium study on the Yamato lunar meteorite. Of the 94 scientific papers presented at the symposium including 36 by overseas scientists from 5 countries, 31 scientific papers were compiled in this volume. These papers covered various subjects related to Antarctic meteorites, such as classifications of the latest find Antarctic meteorites, petrology, mineralogy, chemical studies of inorganic and organic materials, physical and metallographical studies on Antarctic and some non-Antarctic meteorites, and cosmic dusts.

This volume consists of Parts A and B. Thirteen papers of Part A contain new results of the first lunar meteorite, Yamato-791197 collected in Antarctica, which represents ancient lunar highland crust. The scientific works on the Yamato-791197 consortium study have been conducted by 20 international groups including 8 overseas approved by NIPR for the maximum use of the 52.4 g sample. The results point toward the conclusion that Yamato-791197 and Allan Hills A81005 are similar and they are perhaps from the far-side of the Moon.

The papers of Part B also present new significant results of meteorite studies on Antarctic and non-Antarctic meteorites, and extraterrestrial materials in the deep sea sediments. Part B includes a review of newly collected Antarctic meteorites including some rare types, petrology of the second lodranite, thermal history of ureilite, more detail mineralogy and trace elements chemistry of some ordinary and carbonaceous chondrites, terrestrial ages, and physical and magnetic properties. Some papers propose a new interpretation of previously available meteorites while some others report preliminary analyses of new meteorites.

The NIPR symposium on Antarctic meteorites has been held every year since 1977 and the symposium proceedings have been published as a Special Issue of Memoirs of National Institute of Polar Research, Tokyo, before or after the next symposium. It is hoped that the NIPR annual symposium will continue for many years to come and its proceedings can contribute to the development of scientific research on meteorites and of planetary sciences. We may anticipate that additional lunar meteorites will considerably enhance our knowledge of the formation of the lunar highland crust.

On behalf of the Institute, we thank the authors and reviewers for their cooperation in accomplishing the tight publication schedule. Our personal appreciation is extended also to the members of the Institute editorial staff. We hope that the Proceedings of the future symposium will be published before the next year's one.

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