Foreword

This volume 19 is the seventh volume of the "Advances in Polar Upper Atmosphere Research (APUAR)" which succeeded the "Proceedings of the NIPR Symposium on Upper Atmosphere Physics" in 1999 and includes papers presented at or related to "The Twenty-eighth Symposium on Space and Upper Atmospheric Sciences in the Polar Regions" held at the National Institute of Polar Research (NIPR) in summer 2004. The annual Symposium is devoted to discuss significant scientific results of studies on the upper atmosphere, including the ionosphere and the magnetosphere in the polar regions. The journal extensively accepts contributed papers which do mark the advance of research works on the polar upper atmospheric sciences in recent years.

The present volume contains 12 referred scientific papers, research notes, review and report. We sincerely hope that this will be valuable to those who are interested in the polar upper atmospheric sciences and to those who are engaged in Arctic and Antarctic research activities.

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