

巻 頭 言

宇宙航空研究所が大気球観測事業を担当して本年度は16年目にあたる。特に本年は、宇宙航空研究所が東京大学から発展的に文部省の国立大学共同利用機関としての宇宙科学研究所に移行したため、大気球観測事業も同研究所のプロジェクトの一環として行なわれることとなった。ことに本年は三陸大気球観測所開設10周年目にあっているため8月には観測所で記念式が行なわれた。

この15年の間に放球された機数は、309機に及び科学観測について数多くの成果が得られてきた。また、気球工学の上でも、気球の信頼性の向上、高性能気球材料の開発、方向制御、ブーメラン気球、リレー気球、オートバラスト装置など気球観測にとって重要な成果が得られてきた。

大気球観測実験の基本方針は宇宙科学研究所の大気球委員会が立案し、その実行にあたっては放球は主に宇宙科学研究所が担当し、観測は全国の各大学及び研究機関の研究者によって行われてきた。

宇宙科学研究所は周知のように宇宙航空研究所の成果を引継ぎロケット、人工衛星の開発、これによる科学観測の実行を全国の共同利用研究所として行っているが、大気球観測も、それらの一環としてとりあげられ、有機的に同じ研究所で発展をとげようとしていることは世界にもあまり類例をみないことである。

気球観測で得られた成果は各専門誌に発表されているので、本特集号に集録された10篇の論文は、気球工学及び科学観測の結果の一部であるが、大気球特別事業により実行された成果の一端を理解していただけたらと考えている。

大気球委員会

委員長 西村 純

Preface

This is the 16th year since the scientific ballooning has been started as one of the projects of the Institute of Space and Aeronautical Science, University of Tokyo. In this year the Institute has become independent to the University of Tokyo, and was reformed as a national Institute, named as the Institute of Space and Astronautical Science. The balloon project has continued as one of the projects of this new Institute. This is also the 10th year since Sanriku Balloon Center has started, and the anniversary was held in August.

During these 15 years 309 balloons have been launched, and many results of scientific observations were obtained. In the field of the balloon engineering, works have also been made, to increase the reliability of the balloon itself, to develop the plastic films for the balloon use, attitude control devices and the system of balloon trajectory control. As a result, it becomes now possible to perform more sophisticated scientific observations.

The principal policy for this balloon project are to be discussed and determined by the balloon committee of the new Institute as we did in the past 16 years. The committee is composed of the members from outside as well as inside the Institute who are the scientists in various related fields of scientific ballooning. The flights are conducted by the group in the Institute.

The Institute have also been concerned with the development of the Rockets and Satellites for the scientific observation. It might be worth noting that the scientific ballooning project has been developed in close connection with those projects in the same Institute, and thus it was developed quite efficiently.

The special issue of the bulletin of the Institute on the scientific ballooning have been published in every year. This year it contains 10 papers in total, 3 papers on balloon engineering and 7 papers for scientific observations. Since most of the results obtained by the balloon observations were published in various journals, the papers in this issue are not all of the results obtained in the balloon project. However, it is hoped that the reader would have the ideas on the present status of the balloon projects by this issue.

Jun Nishimura, Chairman
Balloon Committee