THE SCIENTIFIC SATELLITE PROGRAMME DURING THE INTERNATIONAL MAGNETOSPHERIC STUDY

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THE SCIENTIFIC SATELLITE PROGRAMME DURING THE INTERNATIONAL MAGNETOSPHERIC STUDY

PROCEEDINGS OF THE 10TH ESLAB SYMPOSIUM,
HELD AT VIENNA, AUSTRIA, 10–13 JUNE 1975

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PREFACE

The 10th ESLAB Symposium was held at Grossenzersdorf near Vienna on 10-13 June 1975 under the title 'The Scientific Satellite Programme During the International Magnetospheric Study'. The Symposium was attended by an invited audience of 60 scientists from the ESA Member States, the United States, Japan, Canada and Austria.

Following a report by the joint COSPAR-IUCSTP Special Working Group, the International Magnetospheric Study (IMS) is proposed as an international co-operative enterprise of limited duration, having as its principal objective the achievement of a comprehensive, quantitative understanding of the dynamical processes operating in the Earth's plasma and field environment. In order to accomplish this objective, it is thought to be necessary to carry out simultaneous measurements with nearly identical instrumentation at various points in space. These measurements will need to be made in combination with appropriate observations at or near the Earth's surface.

Besides near-Earth observations by ground-based, rocket- and balloon-borne instrumentation, satellite investigations are expected to make an important contribution to the IMS. A number of satellites assigned to magnetospheric research have recently been launched, or will be launched shortly, to be operational during the IMS. The European Space Agency has devoted two of its forthcoming scientific satellites – GEOS and ISEE-B – to magnetospheric and interplanetary research. It was therefore quite natural for the Agency, and its Space Science Department (ESLAB) in particular, to organise a Symposium for the purpose of discussing and identifying the opportunities offered by the magnetospheric and interplanetary satellite coverage in the period 1976–78, and to highlight outstanding questions which may be solved with the help of GEOS, ISEE and other spacecraft.

In retrospect, it can be said that the 10th ESLAB Symposium has achieved its objectives and can be considered as the first step towards active co-ordination of IMS satellite programmes. It is hoped that the present book will fulfil a double purpose. It should serve as a reference to all those already familiar with, and engaged in, IMS-related activities, and it should also provide information on the aims of the IMS to those geophysicists who are not directly involved with, but are generally interested in, the objectives of the IMS.

The Editors acknowledge with pleasure the support of all those who helped to make this Symposium a success, and thank the Austrian Space Agency for its hospitality, many ESLAB colleagues for general support, and the ESA Scientific and Technical Information Branch for assistance in producing these proceedings.

OPENING ADDRESS

Ladies and Gentlemen,

The Director General of the European Space Agency has asked me to welcome you to this, the Tenth ESLAB Symposium. It has become a tradition that the Space Science Department of ESTEC – formerly ESLAB – should hold one symposium per year. The fact that this is the tenth indicates that we have recently celebrated the tenth anniversary of ESLAB.

After almost exactly 10 years of running this laboratory, I have recently left it. But I look back at these ESLAB years with a certain feeling of nostalgia, remembering the period when we, particularly Edgar Page and some of the more senior staff, literally built it up with our own hands.

We have used our symposia in the past for different purposes: sometimes for generating new ideas, as we did successfully a few years ago in the field of infrared astronomy. We have also organised symposia to highlight particular satellite missions or to discuss and advance new experiments and space instrumentation. Also, I think the idea of developing multisatellite programmes was first considered during our second symposium, in Noordwijk, at a time when we were fairly new in the field and as such were not much involved and had a slightly different outlook from most. I distinctly remember that it came to my attention during that symposium that more than one satellite is needed if anything really interesting is to be found out about the magnetosphere, which does not necessarily mean that nothing sensible has been found out using data from single satellites.

I hope that this symposium, which is the third devoted to magnetospheric satellite projects, will be equally successful, and I thank you all for coming.

E.A. Trendelenburg

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