

Foreword and Acknowledgements

Spacecraft electrostatic charging was probably the first problem-causing spacecraft-plasma interaction process observed. This motivated the start of this series of conferences in 1976. Spacecraft charging remains both an important driver for space technology and an interesting research area. Since those early days several other issues related to the interactions between ambient and generated plasmas and space systems have been identified and investigated. The purpose of this 7th conference was to provide a forum to discuss the broad spectrum of spacecraft plasma interactions and their impacts on spacecraft technology.

As a result of the high quality of the presentations and stimulating discussions in the sessions and elsewhere the conference was highly successful, providing a lively forum in which participants found the opportunity to:

- present technological and scientific research in the fields of spacecraft-plasma interactions, spacecraft electrostatic sheaths, electrostatic charging of space bodies, and modelling of the relevant spacecraft environment;
- present engineering activities related to charged particle interactions with space systems and materials: in-orbit experience, testing, characterisation, modelling, mitigation techniques, and standards and guidelines;
- discuss policy issues including, future priorities and plans, standardisation, collaboration, insurance, intellectual property and technology transfer issues related to engineering aspects (modelling, testing and design) of spacecraft plasma interactions.

The first day of the conference included a very valuable short course on spacecraft-plasma interactions. This part of the conference was kindly organised by D. Payan (CNES). The main part of the conference consisted of several oral sessions organised around key topics and each session was complemented by a poster session and discussion. The conference proved a great success, both in terms of the technical presentations made, and in the level of interaction among the participants. Important collaborative ventures were addressed and also the difficult issues relating to obstacles to exchange of models and data were discussed in an open and collaborative spirit. A special memory for all participants will be the conference dinner, held in the monumental 15th century Pieterskerk in Leiden (<http://www.pieterskerk.nl/>).

All participants are to be highly commended for their efforts but the organisers express particular thanks to the co-sponsors, AFRL, CNES, DERA (now QinetiQ) and NASA for their invaluable and friendly support. Most of the oral and poster contributions are gathered in these proceedings thanks to the crucial support of the ESA Publications Division and particularly thanks to R. Harris, the Proceedings Editor. The organisers are also especially grateful to the staff of the ESTEC Conference Bureau lead by G. Elfering for their dedication, to S. Guegan, I. Kenny, L.E., S. Mills, B. Thiebault and W. Versteeg for their help with the layout and the graphic design, to P. Escoubet and B. de Jong for making the movie projection possible, and to R. Schonenborg and S. Kubrick for their beautiful movies. We feel sure that we reflect the views of the participants when we look forward enthusiastically to the 8th conference, expected to be organised by NASA.

A. Hilgers and E. Daly

