
PREFACE

EUCASS addresses all topics of interest to aerospace, from research challenges to long-term programmes and administrative problems. It is organized in several permanent Technical Committees (TC). One of them is the Flight Dynamics, Guidance, Navigation, Control (GNC), and Avionics TC. Within the broad EUCASS framework, the specific purpose of the Flight Dynamics, GNC, and Avionics TC is to promote the technology, sciences, and arts of aerospace dynamics, GNC, and avionics and to help those engaged in these pursuits to develop their skills and those of their students and collaborators.

In order to contribute to the dissemination of scientific knowledge and provide a convenient archival reference to the most significant accomplishments, this EUCASS book series on advances in aerospace sciences was started in 2007 on the occasion of the second EUCASS conference held in Brussels.

This sixth volume of the EUCASS book series on advances in aerospace sciences is dedicated to flight dynamics, GNC, and avionics, and includes some of the best papers presented at the 4th European Conference for Aerospace Sciences held in St. Petersburg, Russia, July 04–08, 2011. A collection of the papers accepted for presentation at the conference was selected by the volume editors and later successively edited by an international body of peer reviewers. The current book is the product of this long distillation process.

The volume includes 7 chapters covering traditional aspects in aerospace flight dynamics, GNC, and avionics, as well as innovative ones:

Chapter 1 Handling Qualities

Chapter 2 Navigation and Estimation

Chapter 3 Guidance and Control

Chapter 4 Fault Detection and Control

Chapter 5 Avionics

Chapter 6 Launchers Trajectory Optimization

Chapter 7 Flexible Aircraft Control

To easily identify and put in the right perspective the material of interest, the reader is invited to consult the brief introduction and paper summaries compiled at the start of each chapters.

EUCASS Technical Committee Chair

Max Calabro