

## P REFACE

The Symposium on Mechanics for Space Flight-1990 was held on November 29 through December 1 of 1990 at the Institute of Space and Astronautical Science. This is one of the annual symposia which the Institute of Space and Astronautical Science sponsored. The subtitles of each day are as follows :

Nov. 29 Numerical Fluid Dynamics, Fluid Dynamics for Space Flight, Space Environmental Control Engineering

Nov. 30 Thermophysical Engineering, Thermofluid Dynamics, Heat pipe Engineering

Dec. 1 Control Engineering for Space Exploration

Total of 22 contributed papers, 10 on Nov. 29, 4 on Nov. 30 and 8 on Dec. 1, were presented. Also open-forums concerning to the respective problems were held every afternoon and many discussions were exchanged informally but enthusiastically.

This Proceedings include some of the contributed papers. The 5th and 6th papers were written by the foreign visiting scientists who recently stayed in this Institute and reported by Prof. K. Oshima during the forum. This Proceedings is the 10th of the series, and the accumulated index of the papers included in those previous issues is presented at the end.

Prof. K. Oshima  
Editor