## CONTENTS

Page \_\_\_\_

**.**.

. 1

Keynote Addresses	
SPACE STATION TECHNOLOGY PLANNING R. E. Smylle, NASA Headquarters	١
MILITARY SPACE SYSTEMS TECHNOLOGY PLAN Col. B. W. Bolton, Air Force Space Technology Center	9
Session I - Low-Earth-Orbit Plasma Interactions	
SUPRATHERMAL PLASMA OBSERVED ON STS-3 MISSION BY PLASMA DIAGNOSTICS PACKAGE W. Paterson, L. A. Frank, H. Owens, J. S. Pickett, and G. B. Murphy University of Iowa, and S. D. Shawhan, NASA Headquarters	13
VEHICLE CHARGING ON STS-3 MISSION P. R. Williamson, P. M. Banks, and L. R. O. Storey, Stanford University, and W. J. Raitt, Utah State University	19
ELECTRON AND ION DENSITY DEPLETIONS MEASURED IN THE STS-3 ORBITER WAKE G. B. Murphy and J. S. Pickett, University of Iowa, W. S. Raitt, Utah State University, and S. D. Shawhan, NASA Headquarters	33
SHUTTLE ELECTRICAL ENVIRONMENT M. Smiddy, W. P. Sullivan, and D. Girouard, Air Force Geophysics Laboratory, and P. B. Anderson, Regis College	43
MEASURED ELECTRON CONTRIBUTION TO SHUTTLE_PLASMA ENVIRONMENT: ABBREVIATED UPDATE W. McMahon and R. Salter, Air Force Geophysics Laboratory, R. Hills, Tri-Con Associates, Inc., and D. Delorey, Boston College	71
LABORATORY STUDIES OF KAPTON DEGRADATION IN AN OXYGEN ION BEAM Dale C. Ferguson, NASA Lewis Research Center	81
ELECTRON BEAM CHARGING OF SPACE SHUTTLE THERMAL PROTECTION SYSTEM TILES John V. Staskus, NASA Lewis Research Center	91
Session II - Low-Earth-Orbit Plasma Interactions	
SPACECRAF1-ENVIRONMENT INTERACTION - THE ENVIRONMENTAL PLASMA ASPECT Uri Samir, University of Michigan	103