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6. PLASMA GRAVITY AND PRESSURE GRADIENT CURRENTS 7. SOLVING FOR THE ELECTRIC POTENTIAL; 8. IONOSPHERIC CURRENT SYSTEM AND GEOMAGNETIC PERTURBATIONS; 9. FUTURE DIRECTIONS; REFERENCES; Section III: IT Models; The NCAR TIE-GCM: A Community Model of the Coupled Thermosphere/Ionosphere System; 1. INTRODUCTION; 2. MODEL DEVELOPMENT HISTORY; 3. MODEL DESCRIPTION; 4. SOME MODEL VALIDATION EXAMPLES; 5. FUTURE IMPROVEMENT AND DEVELOPMENT PLANS; REFERENCES; The Global Ionosphere-Thermosphere Model and the Nonhydrostatic Processes; 1. INTRODUCTION; 2. GLOBAL IONOSPHERE-THERMOSPHERE MODEL 3. NONHYDROSTATIC PROCESSES 4. CONCLUSION AND DISCUSSION; APPENDIX A: EQUATIONS IN GITM MODEL; REFERENCES; Traveling Atmospheric Disturbance and Gravity Wave Coupling in the Thermosphere; 1. INTRODUCTION; 2. GLOBAL THERMOSPHERE-IONOSPHERE MODEL; 3. SIMULATION SETUP; 4. SIMULATION RESULTS; 5. SUMMARY; REFERENCES; Air Force Low-Latitude Ionospheric Model in Support of the C/NOFS Mission; 1. INTRODUCTION; 2. MODEL DESCRIPTION AND OUTPUT; 3. A STATISTICAL STUDY OF LOW-LATITUDE IONOSPHERIC DENSITIES; 4. SUMMARY AND DISCUSSION; REFERENCES; Long-Term Simulations of the Ionosphere Using SAMI3
1. INTRODUCTION

Sommario/riassunto

Published by the American Geophysical Union as part of the Geophysical Monograph Series, Volume 201. Modeling the Ionosphere-Thermosphere System brings together for the first time a detailed description of the physics of the IT system in conjunction with numerical techniques to solve the complex system of equations that describe the system, as well as issues of current interest. Volume highlights include discussions of: Physics of the ionosphere and thermosphere IT system, and the numerical methods to solve the basic equations of the IT system The physics and
