Modeling the Ionosphere-Thermosphere, Volume 201. Geophysical Monograph Series

Description:
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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 numerical methods to determine the global electrodynamics of the IT system
- The response of the IT system to forcings from below (i.e., the lower atmosphere) and from above (i.e., the magnetosphere)
- The physics and numerical methods to model ionospheric irregularities
- Data assimilation techniques, comparison of model results to data, climate variability studies, and applications to space weather

Providing a clear description of the physics of this system in several tutorial–like articles, Modeling the Ionosphere–Thermosphere System is of value to the upper atmosphere science community in general. Chapters describing details of the numerical methods used to solve the equations that describe the IT system make the volume useful to both active researchers in the field and students.

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