

Volume 10
Number 11
1990

Advances in Space Research

ISSN 0273-1177

DEVELOPMENT OF IRI-90

Edited by K. Rawer
W. R. Piggott



Pergamon Press

CONTENTS

Chapter 1 — VERTICAL PROFILES

Progress Report on IRI Status <i>D. Bilitza</i>	3
New Options for IRI Electron Density in the Middle Ionosphere <i>D. Bilitza and K. Rawer</i>	7
On a Characteristic Point at the Base of the F ₂ Layer <i>M. Mosert de González and S. M. Radicella</i>	17
An Analytical Model of the Electron Density Profile in the Ionosphere <i>G. Di Giovanni and S. M. Radicella</i>	27
Spatial and Temporal Variability of the Ionosphere During Solar Minima <i>T. L. Gulyaeva, M. Mosert de González, S. M. Radicella and B. Zolezi</i>	31
Temporal Variation of Median foEs <i>G. A. Moraitis</i>	35
Global Models of N _c and T _c at Solar Maximum Based on DE-2 Measurements <i>L. H. Brace and R. F. Theis</i>	39
Empirical Modeling of Ion Composition in the Middle and Topside Ionosphere <i>D. Bilitza</i>	47

Chapter 2 — WORLDWIDE AND REGIONAL MAPPING

Application of the Expansion into Empirical Orthogonal Functions to Ionospheric Characteristics <i>W. Singer and J. Taubenheim</i>	59
Discussion of a New Method for Mapping Ionospheric Characteristics <i>L. Bossy and K. Rawer</i>	65
Proposed Improvement of the IRI Topside Profile Formula <i>K. Rawer</i>	75
Comparison of Topside Electron Density Profiles in the Subauroral Ionosphere with IRI and SMI-85 Models <i>N. P. Benkova, M. D. Fligel, P. V. Kishcha, N. A. Kochenova, E. F. Kozlov, Yu. V. Kushnerevsky, N. I. Samorokin, A. S. Besprozvannaya and T. I. Shchuka</i>	79
Solar Cycle Variations in F-Region T _c in the Vicinity of the Midlatitude Trough Based on AE-C Measurements at Solar Minimum and DE-2 Measurements at Solar Maximum <i>L. H. Brace</i>	83
Geomagnetic Control of the Ionospheric E-Region at Three Different Latitudes in the European-African Sector <i>K. K. Barbatsi</i>	89
OI 630 nm Emission in the Equatorial Ionosphere from 'INTERCOSMOS — BULGARIA — 1300' Data <i>Iv. N. Kostadinov, P. Vl. Stoeva and V. Hr. Guineva</i>	93

Chapter 3 — OUTLOOK

Towards an Expert System on Ionospheric Informatics <i>T. L. Gulyaeva</i>	99
Note on Some Problems of Optimum Mapping <i>W. R. Piggott</i>	109

Annex — TABLES

Tables to "Spatial and Temporal Variability of the Ionosphere During Solar Minima" <i>T. L. Gulyaeva, M. Mosert de González, S. M. Radicella and B. Zolezi</i>	113
Author Index	117