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Advanced Numerical Methods for Complex Environmental Models: Needs and Availability

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About the ebook

This monograph thoroughly describes mathematical methods useful for various situations in environmental modeling. Chapters are written by well-known specialists making this book a handy reference for researchers, university teachers and students working and studying in the areas of air pollution, meteorology, applied mathematics and computer science

Contents

- ▶ Treatment of Some Classes of PDEs and ODEs Part A: Complex Numerical Atmospheric Environmental Models - Overall Description and Applications
- ▶ Finite-Difference Methods for Extremely Anisotropic Diffusion
- ▶ Treatment of the Chemical Reactions in an Air Pollution Model
- ▶ Introduction of Splitting Procedures Part A: Implementation of Splitting Procedures Majorization and Generalized Entropies
- ▶ Application of Splitting in an Air Pollution Model
- ▶ Parallel Computations in a Large-Scale Air Pollution Model
- ▶ Handling of Some Classes of Inverse Problems Part A: Adjoint Methods and their Application in Earth Sciences
- ▶ Sensitivity Analysis in Nonlinear Variational Data Assimilation: Theoretical Aspects and Applications

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