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(Editors)



Nonlinear Dynamics in Geosciences

In the last two decades many scientific disciplines have adopted nonlinear dynamics as a basic tool for understanding the complex behavior of systems. The editors of this book prepared by the International Conference on Nonlinear Dynamics in Geosciences and organized by the Department of Earth Sciences of the University of Trento, Italy, present a collection of papers illustrating the application of nonlinear methods to problems of geoscience.

The lectures focus primarily on recent developments in the field of nonstationary time series analysis and related methods. However, most of these methods are also applied to steady signals. In addition, their application was extended to the study of nonstationary processes. Results in different fields of geoscience, including atmospheric, hydrological, oceanographic, geological, and seismic problems, are reported, and some major advances have been made.

It is a source of particular satisfaction of the organizers to note that the contributions show no parallel interests and the typification of the research is very heterogeneous. This heterogeneity can be attributed to the diversity of research problems and to the development of methods from different scientific disciplines. The editors are gratified to see the interest of the geoscientists. This project has no particular goals.

In conclusion we feel it is particularly important that this volume is intended to serve the broad range of disciplines involved in the study of the earth sciences. It is our hope that the book will stimulate further research in the field of nonlinear dynamics in geosciences and that it may contribute to a better understanding of complex natural phenomena. We believe that the book will be of interest to researchers and students in the field of nonlinear dynamics and to practitioners in various fields of geoscience.

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