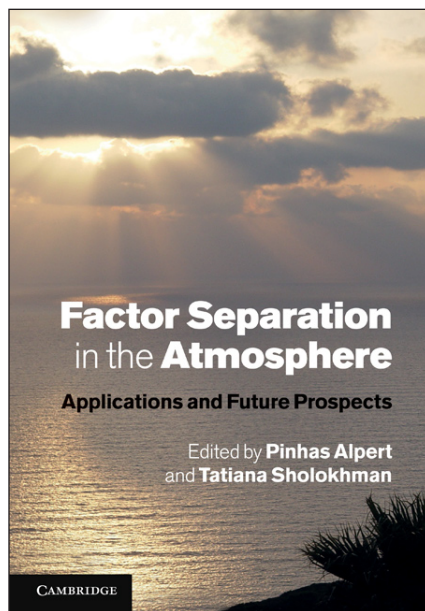


Factor Separation in the Atmosphere

Applications and Future Prospects



By Pinhas Alpert and Tatiana Sholokhman
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Modeling atmospheric processes in order to forecast the weather or future climate change is an extremely complex and computationally intensive undertaking. One of the main difficulties is that there are a huge number of factors that need to be taken into account, some of which are still poorly understood. The Factor Separation (FS) method is a computational procedure that helps deal with these nonlinear factors. In recent years many scientists have applied FS methodology to a range of modeling problems, including paleoclimatology, limnology, regional climate change, rainfall analysis, cloud modeling, pollution, crop growth, and other forecasting applications. This book is the first to describe the fundamentals of the method, and to bring together its many applications in the atmospheric sciences. The main audience is researchers and graduate students using the FS method, but it is also of interest to advanced students, researchers, and professionals across the atmospheric sciences.



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Key Features

- Provides understanding of complex physical processes by studying several factors
- Allows readers to examine a wide range of atmospheric research examples in which the factor separation method is used, from microscale and mesoscale up to the large scale
- Emphasizes the exact separation methodology for atmospheric interaction or synergies, providing a more clear and robust understanding of how multiple factors act in the atmosphere

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