

Preface

The goal of this book is to give a reliable description of various global atmospheric properties and some phenomena including photoprocesses, processes of atmospheric electricity with participation of aerosols, the atmospheric chemistry with processes involving ions, oxygen atoms, excited atomic particles and ozone molecules, as well as processes in an ionospheric plasma. In the course of this consideration, we are based on observational data, existing atmospheric concepts, and measured rate constants of elementary processes in atmospheric air. Fundamentals of global atmospheric phenomena are based on the standard atmosphere model with averaged atmospheric parameters over the globe and time, the global electric circuit, the energetic balance of the Earth, and other global concepts. As a result, one can give a qualitative description of atmospheric phenomena and estimate their parameters. This analysis is based on processes involving elementary atmospheric particles and gives a simple and reliable understanding of the Earth processes and phenomena. In addition, this analysis allows one to glance at future trends of topical atmospheric problems, such as ozone problem and climate change.

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