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Abstract

The present textbook covers the fundamentals of Physics of the atmospheric environment. In the first chapter, the reader can study the atmospheric properties and can get familiarized with important notions and definitions. The second chapter describes solar radiation, while the third chapter focuses on atmospheric humidity, with emphasis put on the role of water vapour on the atmospheric processes. The following two chapters explore atmospheric thermodynamics and stability, while chapters six and seven are dedicated to the equations of motion within the atmosphere and the atmospheric boundary layer,

respectively. Next, the reader can study the different scales of motion within the atmosphere, whereas in the ninth chapter the fundamentals of atmospheric pollution and its dispersion are described. The last chapter focuses on sound and environmental degradation due to noise. Each chapter includes a number of worked examples, in order for the reader to get familiarized with the various notions. The book is suitable for undergraduates who study in the departments of Physics, Environment, Environmental Engineering, Geoponics and Forestry, but it can also be useful at the post-graduate level.

