



METADATA

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Abstract

The book/textbook can be used by advanced undergraduate students of physics departments in courses related to the study of our Galaxy, other galaxies, and, in general, large-scale structures of the universe beyond our Galaxy. Great emphasis is given on helping readers to understand the physical processes that shape phenomena in our own and other galaxies, as well as on studying the evolution of large-scale structures in the universe and, beyond that, of the universe as a whole. The structure of the book will follow the hierarchy of the structures of the universe: after an introductory chapter, it starts with the study of our Galaxy, followed by a study of the morphology, dynamics, and evolution of other galaxies (a separate chapter is devoted to a particularly important class of galaxies, the "active galaxies").

The study then focuses on the structures of the universe on an even larger spatial scale: galaxy clusters and superclusters. The last two chapters are devoted to cosmology, i.e., the study of matter as a unified whole on the largest possible scales of space and time. A separate appendix provides a comprehensive bibliography, tables of physical and astronomical constants, and a collection of useful web addresses. The level of the textbook is advanced undergraduate and is addressed to students who have completed the basic physics and mathematics courses usually offered by physics departments in the first two years of studies. No special knowledge of introductory astronomy/astrophysics is required to study the book, as the necessary background information is provided in the first (introductory) chapter.

