

Chapter 1 : An Introduction to Modern Astrophysics (2nd edition) - Download Free EBooks

If this is the case, Dufay did not intend his book to be an introduction to astrophysics any more than Roberts and Caserio meant Basic Principles of Organic Chemistry to be an introduction to organic chemistry.

Ads Preface An Introduction to Modern Astrophysics is a comprehensive, well-organized and engaging text covering every major area of modern astrophysics, from the solar system and stellar astronomy to galactic and extragalactic astrophysics, and cosmology. Designed to provide students with a working knowledge of modern astrophysics, this textbook is suitable for astronomy and physics majors who have had a first-year introductory physics course with calculus. Featuring a brief summary of the main scientific discoveries that have led to our current understanding of the universe; worked examples to facilitate the understanding of the concepts presented in the book; end-of-chapter problems to practice the skills acquired; and computational exercises to numerically model astronomical systems, the second edition of An Introduction to Modern Astrophysics is the go-to textbook for learning the core astrophysics curriculum as well as the many advances in the field. The Tools of Astronomy: The celestial sphere; 2. The continuous spectrum of light; 4. The theory of special relativity; 5. The interaction of light and matter; 6. The Nature of Stars: Binary systems and stellar parameters; 8. The classification of stellar spectra; 9. The interiors of stars; The interstellar medium and star formation; Main sequence and post-main-sequence stellar evolution; The fate of massive stars; The degenerate remnants of stars; General relativity and black holes; Close binary star systems; Part III. Physical processes in the solar system; The terrestrial planets; The realms of the giant planets; Minor bodies of the solar system; Formation of planetary systems; Part IV. Galaxies and the Universe: The Milky Way Galaxy; The nature of galaxies; The structure of the Universe; The early Universe; Appendix A. Astronomical and physical constants; Appendix B. Unit conversions; Appendix C. Solar system data; Appendix D. The constellations; Appendix E. The brightest stars; Appendix F. The nearest stars; Appendix G. Stellar data; Appendix H. The Messier catalog; Appendix I. Constants, a programming module; Appendix J. Orbit, a planetary orbit code; Appendix K. TwoStars, a binary star code; Appendix L. StatStar, a stellar structure code; Appendix M. Galaxy, a tidal interaction code; Appendix N.

Chapter 2 : An Introduction to Modern Astrophysics by Bradley W. Carroll

Astrophysics is the study of the physics of the universe. Various objects, such as stars, planets, and galaxies, are studied under the scope of astrophysics. Since astrophysics is a very broad subject, many disciplines of physics are typically applied.

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An Introduction to Modern Astrophysics, Second Edition has been thoroughly revised to reflect the dramatic changes and advancements in astrophysics that have occurred over the past decade. The Second Edition of this market-leading book has been updated to include the latest results from relevant fields of astrophysics and advances in our.

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For an introduction, Carroll & Ostlie's book is very fine. It's suitable for beginners, both in astrophysics and physics in general. The first few chapters deal entirely with topics that are (or at least are supposed to be) covered in any undergraduate program.

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