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Nota di contenuto	Cover -- Half-Title -- Title -- Copyright -- Dedication -- Contents -- Preface -- Chapter 1: The Language of Physics -- 1.0 Introduction -- 1.1 The SI System of Units -- 1.1.1 Derived Units -- 1.1.2 Energy -- 1.1.3 Viscosity -- 1.2 Dimensions -- 1.2.1 Method of Dimensions -- 1.3 Scientific Notation, Prefixes, and Significant Figures -- 1.4 Uncertainties -- 1.4.1 Types of Uncertainty -- 1.4.2 Combining Uncertainties -- 1.5 Dealing with Random and Systematic Experimental Errors -- 1.5.1 Random Errors -- 1.5.2 Systematic Errors -- 1.6 Differential Calculus -- 1.6.1 Derivatives and Rates of Change -- 1.6.1.1 Second Derivatives -- 1.6.2 Maximum and Minimum Values -- 1.7 Differential Equations -- 1.8 Integral Calculus -- 1.9 Vectors and Scalars -- 1.9.1 Adding Vectors -- 1.9.2 Resolving Vectors into Components -- 1.9.3 Multiplying Vectors -- 1.9.3.1 Scalar Product -- 1.9.3.2 Vector Product -- 1.10 Symmetry Principles -- 1.11 Exercises -- Chapter 2: Representing and Analyzing Data -- 2.0 Introduction -- 2.1 Experimental Variables -- 2.2 Recording Data -- 2.3 Straight-Line Graphs -- 2.3.1 Interpreting Straight-Line Graphs -- 2.3.2 Analyzing Straight-Line Graphs -- 2.4 Plotting Graphs and Using Error Bars -- 2.4.1 Plotting Graphs by Hand -- 2.4.2 Finding a Gradient from a Straight-Line Graph -- 2.4.3 Using a Spreadsheet Program (e.g., Excel)

	-- 12.3.2 Centripetal Force -- 12.3.3 Centripetal Not Centrifugal -- 12.3.4 Moving in Uniform Circular Motion -- 12.4 Circular Motion, Simple Harmonic Motion, and Phasors -- 12.5 Rotational Kinematics. 12.5.1 Equations for Uniform Angular Acceleration.
Sommario/riassunto	This updated edition is designed as a self-teaching, calculus-based introduction to the concepts of physics. Numerous examples, applications, and figures provide readers with simple explanations. Standard topics include vectors, conservation of energy, Newton's Laws, momentum, motion, gravity, relativity, waves, fluid mechanics, circuits, nuclear physics, astrophysics, and more. FEATURES:Designed as a calculus-based, introduction to the key concepts of physicsPractical techniques, including the collection, presentation, analysis and evaluation of data, are discussed in the context of key experiments linked to the theoretical spine of the work