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Nota di contenuto	The bases of scientific knowledge -- The role of Mathematics -- Conceptual and empirical structure of physical quantities -- The development of the founding concept of Physics -- The methodologies of knowledge -- Looking for solid bases: attempts to explain everything -- Looking for solid bases: attempts to demonstrate everything -- True and false in Physics -- How “Science should be done”: trying and trying again -- How “Science should not be done”: frauds and distortions -- Conclusion: the scientific sight as multiple and human.
Sommario/riassunto	Standard STEM courses, for all of their value, do not tend to include systematic lectures or treatment about the nature of the scientific method. This book aims to provide a wide reflection on the general principles of physics and explore the foundations of scientific knowledge as a whole. The author delves into the study of what lies at the basis of science in general, and physics in particular. Themes such as the relation between natural phenomena and mathematical language

are addressed, highlighting the main hubs of conceptual development in science. The volume also examines the conceptual and practical instruments that have been progressively developed to investigate the nature of physics. Furthermore, the author discusses the importance of “scientific practice” within the scientific community, emphasizing its role in advancing knowledge and how it contributes to physics as a whole. Divided into three parts, each covering different aspects of physics and its foundations, the text, while assuming basic knowledge of physics and mathematics taught in university courses, is accessible to all STEM students, and will be useful for anyone looking gain valuable insights into the nature of physics and the methods used to acquire knowledge in this field.