



The Beauty of Physics: Patterns, Principles, and Perspectives (Hardback)

By A. R. P. Rau

Oxford University Press, United Kingdom, 2014. Hardback. Book Condition: New. 218 x 142 mm. Language: English . Brand New Book. The beauty of physics lies in its coherence in terms of a few fundamental concepts and principles. Even physicists have occasion to marvel at the overarching reach of basic principles and their ability to account for features stretching from the microscopic sub-atomic world to the cosmological expanses of the Universe. While mathematics is its natural language, physics is mostly about patterns, connections, and relations between objects and phenomena, and it is this aspect that is emphasized in this book. Since science tries to connect phenomena that at first sight appear widely different, while boiling them down to a small set of essential principles and laws, metaphor and analogy pervade our subject. Consider the pendulum, its swing from one extreme to the other often invoked in social or economic contexts. In molecular vibrations, such as in the CO2 molecule, the quantum motions of electrons and nuclei are metaphorically the pendulums. In electromagnetic radiation, including the visible light we observe, there are not even any concrete material particles, only electric and magnetic fields executing simple harmonic motion. But, to a physicist, they...



Reviews

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-- Roberto Friesen

This written book is excellent. It typically is not going to price a lot of. I found out this book from my dad and i encouraged this book to discover.

-- Darrin Abbott