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Review.

Sommario/riassunto

A practical new approach that brings together circuit theory and field theory for the practicing engineer To put it frankly, the traditional education of most engineers and scientists leaves them often unprepared to handle many of the practical problems they encounter. The Fields of Electronics: Understanding Electronics Using Basic Physics offers a highly original correction to this state of affairs. Most engineers learn circuit theory and field theory separately. Electromagnetic field theory is an important part of basic physics, but because it is a very mathematical subject, the connection to everyday problems is not emphasized. Circuit theory, on the other hand, is by its nature very practical. However, circuit theory cannot describe the nature of a facility, the interconnection of many pieces of hardware, or the power grid that interfaces each piece of hardware. The Fields of Electronics offers a unique approach that brings the physics and the circuit theory together into a seamless whole for today's practicing engineers.; With a clear focus on the real-world problems confronting the practitioner in the field, the book thoroughly details the principles that apply to: Capacitors, inductors, resistors, and transformers Utility power and circuit concepts Grounding and shielding Radiation Analog and digital signals Facilities and sites Written with very little mathematics, and requiring only some background in electronics, this book provides an eminently useful new way to understand the subject of electronics that will simplify the work of every novice, experienced engineer, and scientist.