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Titolo	Electricity and Magnetism [[electronic resource]] : New Formulation by Introduction of Superconductivity // by Teruo Matsushita
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Descrizione fisica	1 online resource (XIII, 384 p. 286 illus., 1 illus. in color.)
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Altri autori (Persone)	MatsushitaTeruo <1948->
Disciplina	537.623
Soggetti	Optics Electrodynamics Superconductivity Superconductors Physics Electrical engineering Classical Electrodynamics Strongly Correlated Systems, Superconductivity Mathematical Methods in Physics Electrical Engineering
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I Static Electric Phenomena -- Electrostatic Field -- Conductors -- Conductor System in Vacuum -- Dielectric Materials -- Steady Current -- Part II Static Magnetic Phenomena -- Current and Magnetic Flux Density -- Superconductors -- Current Systems -- Magnetic Materials -- Part III Time- Dependent Electromagnetic Phenomena -- Electromagnetic Induction -- Displacement Current and Maxwell's Equations -- Electromagnetic Wave.
Sommario/riassunto	The author introduces the concept that superconductivity can establish a perfect formalism of electricity and magnetism. The correspondence of conductors that exhibit perfect electrostatic shielding ($E=0$) in the static condition and superconductors that show perfect diamagnetism ($B=0$) is given to help readers understand the relationship between electricity and magnetism. Another helpful aspect with the introduction

of the superconductivity feature perfect diamagnetism is that the correspondence in the development of the expression of magnetic energy and electric energy is clearly shown. Additionally, the basic mathematical operation and proofs are shown in an appendix, and there is full use of examples and exercises in each chapter with thorough answers.
