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Autore	Cooray Vernon
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Nota di contenuto	Intro -- Title -- Copyright -- Contents -- About the editors -- Acknowledgements -- 1 Basic electromagnetic theory - a summary -- 1.1 Introduction -- 1.2 The nomenclature -- 1.3 Coordinate systems -- 1.4 Important vector relationships -- 1.4.1 The scalar product of vectors -- 1.4.2 The vector product of two vectors -- 1.4.3 Vector field -- 1.4.4 The Nabla operator and its operations -- 1.4.5 Important vector identities -- 1.4.6 Relationship between the Curl of a vector field and the line integral of that vector field around a closed path -- 1.4.7 The flux of a vector field through a surface -- 1.4.8 Relationship between the divergence of a vector field and the flux of that vector field through a closed surface -- 1.4.9 Divergence theorem -- 1.4.10 Stokes theorem -- 1.5 Static electric fields -- 1.5.1 Coulomb's law -- 1.5.2 Electric field produced by static charges is a conservative field -- 1.5.3 Gauss's law -- 1.5.4 Electric scalar potential -- 1.5.5 Poisson and Laplace equations -- 1.5.6 Concept of images -- 1.5.7 Electrostatic boundary conditions -- 1.6 Electric currents, charge conservation, and static magnetic fields -- 1.6.1 Electric current -- 1.6.2 Conservation of electric charge -- 1.6.3 Re-distribution of excess charge placed inside

Sommario/riassunto

Understanding lightning is of importance due to the increase in extreme weather events. The 2nd edition of this classic work has been thoroughly updated and revised, with new content on EM radiation at various wavelengths. Volume 1 treats electrodynamics, whilst volume 2 addresses effects and modelling.