

1. Record Nr.	UNINA9911006754403321
Autore	Landau L D
Titolo	Electrodynamics of Continuous Media
Pubbl/distr/stampa	Burlington, : Elsevier Science, 1984
ISBN	1-4832-9375-0
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (1341 p.)
Collana	COURSE OF THEORETICAL PHYSICS ; ; v.V8
Altri autori (Persone)	BellJ. S <1928-1990.> (John Stewart) KearsleyM. J PitaevskiiL. P LifshitzE.M SykesJ. B
Soggetti	Physics Physical Sciences & Mathematics Electricity & Magnetism
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Cover image; Title page; Table of Contents; Inside Front Cover; Related Pergamon Titles; Copyright; PREFACE TO THE SECOND EDITION; PREFACE TO THE FIRST ENGLISH EDITION; NOTATION; Chapter 1: ELECTROSTATICS OF CONDUCTORS; Publisher Summary; 1 The electrostatic field of conductors; 2 The energy of the electrostatic field of conductors; 3 Methods of solving problems in electrostatics; 4 Aconducting ellipsoid; 5 The forces on a conductor; Chapter 2: ELECTROSTATICS OF DIELECTRICS; Publisher Summary; 6 The electric field in dielectrics; 7 The permittivity; 8 A dielectric ellipsoid 9 The permittivity of a mixture10 Thermodynamic relations for dielectrics in an electric field; 11 The total free energy of a dielectric; 12 Electrostriction of isotropic dielectrics; 13 Dielectric properties of crystals; 14 The sign of the dielectric susceptibility; 15 Electric forces in a fluid dielectric; 16 Electric forces in solids; 17 Piezoelectrics; 18 Thermodynamic inequalities; 19 Ferroelectrics; 20 Improper ferroelectrics; Chapter 3: STEADY CURRENT; Publisher Summary; 21 The current density and the conductivity; 22 The Hall effect; 23 The contact potential

24 The galvanic cell; 25 Electrocapillarity; 26 Thermoelectric phenomena; 27 Thermogalvanomagnetic phenomena; 28 Diffusion phenomena; Chapter 4: STATIC MAGNETIC FIELD; Publisher Summary; 29 Static magnetic field; 30 The magnetic field of a steady current; 31 Thermodynamic relations in a magnetic field; 32 The total free energy of a magnetic substance; 33 The energy of a system of currents; 34 The self-inductance of linear conductors; 35 Forces in a magnetic field; 36 Gyromagnetic phenomena; Chapter 5: FERROMAGNETISM AND ANTIFERROMAGNETISM; Publisher Summary; 37 Magnetic symmetry of crystals; 38 Magnetic classes and space groups; 39 Ferromagnets near the Curie point; 40 The magnetic anisotropy energy; 41 The magnetization curve of ferromagnets; 42 Magnetostriction of ferromagnets; 43 Surface tension of a domain wall; 44 The domain structure of ferromagnets; 45 Single-domain particles; 46 Orientational transitions; 47 Fluctuations in ferromagnets; 48 Antiferromagnets near the Curie point; 49 The bicritical point for an antiferromagnet; 50 Weak ferromagnetism; 51 Piezomagnetism and the magnetoelectric effect; 52 Helicoidal magnetic structures; Chapter 6: SUPERCONDUCTIVITY; Publisher Summary; 53 The magnetic properties of superconductors; 54 The superconductivity current; 55 The critical field; 56 The intermediate state; 57 Structure of the intermediate state; Chapter 7: QUASI-STATIC ELECTROMAGNETIC FIELD; Publisher Summary; 58 Equations of the quasi-static field; 59 Depth of penetration of a magnetic field into a conductor; 60 The skin effect; 61 The complex resistance; 62 Capacitance in a quasi-steady current circuit; 63 Motion of a conductor in a magnetic field; 64 Excitation of currents by acceleration

Sommario/riassunto

Covers the theory of electromagnetic fields in matter, and the theory of the macroscopic electric and magnetic properties of matter. There is a considerable amount of new material particularly on the theory of the magnetic properties of matter and the theory of optical phenomena with new chapters on spatial dispersion and non-linear optics. The chapters on ferromagnetism and antiferromagnetism and on magnetohydrodynamics have been substantially enlarged and eight other chapters have additional sections.