1.	Record Nr.	UNISA996208056503316
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	Titolo	Electron cyclotron heating of plasmas [[electronic resource] /] / Gareth Guest
	Pubbl/distr/stampa	Weinheim, : VCH, c2009
	ISBN	1-282-37987-9
		9786612379871
		3-527-62788-X
		3-527-62789-8
	Descrizione fisica	1 online resource (265 p.)
	Disciplina	530.44
		621.484
	Soggetti	Electron cyclotron resonance sources
		Electron cyclotron resonance sources - Industrial applications
		Plasma heating
		Plasma heating - Industrial applications
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Electron Cyclotron Heating of Plasmas; Contents; 1 Introduction; References; 2 Magnetic Fields; 2.1 Magnetic Mirrors: Field Calculations Using the Vector Potential; 2.2 Orthogonal Curvilinear Coordinates and Clebsch Representations; 2.3 Magnetic Mirrors: Field Calculations Using the Scalar Potential; 2.4 The Dipole Limit: Planetary Magnetic Fields; 2.5 Tokamaks: Rotational Transform and the ""Safety Factor""; References; 3 Electron Orbits; 3.1 Electron Gyromotion; 3.2 Electron Bounce Motion; 3.3 Electron Drift Motions; 3.4 Relativistic Electron Kinematics for ECH; 3.5 The Hamiltonian Approach
		3.6 Drift Orbits in Toroidal Magnetic ConfigurationsReferences; 4 Wave Propagation and Cyclotron Damping in Magnetized Plasmas; 4.1 The Cold-Plasma Dispersion Relation; 4.2 Critical Conditions for Parallel Propagation; 4.3 Critical Conditions for Perpendicular Propagation; 4.4 Clemmow-Mullaly-Allis Diagrams; 4.5 The High-Field Regime; 4.6 The Low-Field Regime; 4.7 A Few Preliminary Implications for ECH Experiments; 4.8 Wave Damping; 4.8.1 A Collisional Model of Damping;

4.8.2 An Introduction to Collisionless Cyclotron Damping; 4.8.3 Cyclotron Damping of Whistler Waves

4.8.4 Cyclotron Damping of Waves Propagating as O-Modes4.9 Electrostatic Plasma Waves; 4.10 Estimates of the Electric Field Amplitude; 4.11 Ray Tracing in Inhomogeneous Plasmas; References; 5 Interaction of Electrons with Electromagnetic Fields at Resonance; 5.1 A Rudimentary Stochastic Model of ECH; 5.2 Dynamics of the Fundamental Resonance Interaction; 5.2.1 Dynamics of the Electron Interaction With X-Mode Waves; 5.2.2 Dynamics of the Electron Interaction With Parallel RF Electric Fields; 5.2.3 Dynamics of the Electron Interaction with O-Mode Waves; 5.3 Heating of Relativistic Electrons

5.4 Limit Cycles5.5 Nonlinear Effects: Mapping Approaches; References; 6 Equilibrium; 6.1 Charge Balance; 6.2 Particle and Power Balance; 6.2.1 Particle and Energy Balance for Group 1; 6.3 Breakdown and Start-up; 6.3.1 Breakdown by Heating on the Midplane of a Magnetic Mirror; 6.3.2 Breakdown with Heating Well Off the Midplane; 6.3.3 Breakdown with Heating near the Midplane; 6.4 ECH Runaway: Groups 2 and 3; 6.4.1 Particle Balance for Electrons in Group 2; 6.4.2 Particle and Power Balance for Electrons in Group 3; 6.5 Fokker-Planck Models of Hot-Electron Equilibria

6.6 Ad Hoc Velocity-Space Models of Anisotropic Hot-Electron EquilibriaReferences; 7 Stability; 7.1 Interchange Instabilities; 7.2 Electrostatic Velocity-Space Instabilities Driven by Wave-Particle Interactions; 7.3 Electromagnetic Velocity Space Instabilities; References; 8 Experimental Results in Magnetic Mirrors; 8.1 Hot-Electron Experiments in ""Physics Test Facility"" and EPA [1-3]; 8.2 High-Beta Experiments in ELMO [9]; 8.3 Unstable Electromagnetic Waves in the TPM [12]; 8.4 Heating Experiments in AMPHED [15]; References; 9 Electron Cyclotron Heating in Tokamaks

9.1 Ordinary-Mode Fundamental ECH Absorption in PLT

Sommario/riassunto	Authored by a highly regarded plasma scientist, this book fills the gap for a topical reference and source with a professional audience in mind. While the use of this critical method at the international fusion reactor, ITER, is covered in detail, the monograph also includes planetary magnetospheres and plasma sources for commercial applications.With exercises and solutions for additional use as course reading.

2.

Record Nr.	UNISALENTO991001035449707536
Autore	Capurso, Michele
Titolo	Introduzione al calcolo automatico delle strutture / Michele Capurso
Pubbl/distr/stampa	Roma : Edizioni Cremonese, c1977
Descrizione fisica	371 p. : ill., 122 fig., 18 tab., 53 esempi di programmazione ; 25 cm.
Classificazione	AMS 70-04
	AMS 70E
Disciplina	519.4
Soggetti	Dynamics of rigid bodies
	Explicit machine computation
Lingua di pubblicazione	Italiano
Formato	Materiale a stampa
Livello bibliografico	Monografia