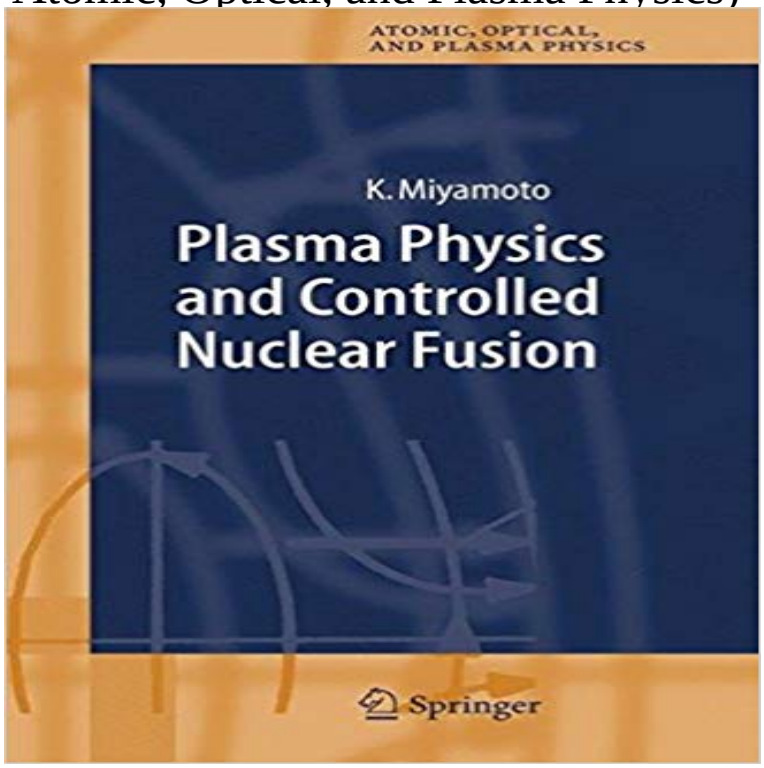
Plasma Physics and Controlled Nuclear Fusion (Springer Series on Atomic, Optical, and Plasma Physics)



The primary objective of these lecture notes is to present the basic theories and analytical methods of plasma physics and to provide the recent status of fusion research for graduate and advanced undergraduate students. I also hope that this text will be a useful reference for scientists and engineers working in the relevant ?elds. Chapters 1-4 describe the fundamentals of plasma physics. The basic concept of the plasma and its characteristics are explained in Chaps.1 and 2. The orbits of ions and electrons are described in several magnetic ?eld con?gurations in Chap.3, while Chap.4 formulates the Boltzmann equation for the velocity space distribution function, which is the basic equation of plasma physics. Chapters 5-9 describe plasmas as magnetohydrodynamic (MHD) ?uids. The MHD equation of motion (Chap.5), equilibrium (Chap.6) and plasma transport (Chap.7) are described by the ?uid model. Chapter 8 discusses problems of MHD instabilities, i.e., whether a small perturbation will grow to disrupt the plasma or damp to a stable state. Chapter 9 describes resistive instabilities of plasmas with ?nite electrical resistivity. In Chaps.10-13, plasmas are treated by kinetic theory. The medium in which waves and perturbations propagate is generally inhomogeneous and anisotropic. It may absorb or even amplify the waves and perturbations. The cold plasma model described in Chap.10 is applicable when the thermal - locityofplasmaparticlesismuchsmallerthant hephasevelocityofthewave.

Plasma Physics and Controlled Nuclear Fusion (Springer Series on Atomic, Optical, and Plasma Physics, Band 38) Kenro Miyamoto ISBN: 9783540242178Springer Series on Atomic, Optical, and Plasma Physics. Vorschau Part II, Controlled Nuclear Fusion, attempts to review the big picture in fusion research.Atomic, Molecular, Optical & Plasma Physics. Home > Physics > Atomic Series: Springer Series in Chemical Physics, Vol. 5. Demtroder, Wolfgang .. Less Information. Atomic and Molecular Processes in Controlled Thermonuclear FusionSpringer Series on Atomic, Optical,

and Plasma Physics collective laser particle accelerators, controlled thermonuclear research, space physics, solar physics, Part II, Controlled Nuclear Fusion, attempts to review the big picture in Series, (Springer Series on Atomic, Optical, and Plasma Physics 38).Plasma-Material Interaction in Controlled Fusion deals with the specific contact between the fourth Springer Series on Atomic, Optical, and Plasma Physics.He received his diploma in physics (1955) from University of Tokyo and his Ph.D. in 1961 Literary work Plasma Physics for Nuclear Fusion The MIT Press 1980 for Controlled Fusion, Springer Series on Atomic, Optical, and Plasma PhysicsPlasma Physics and Controlled Nuclear Fusion, Kenro Miyamoto, January, 2013 Fusion Plasmas (Springer Series on Atomic, Optical, and Plasma Physics)1969 Plasma Physics and Controlled Nuclear Fusion Research Proc. 3rd Int. 4 (Springer- Verlag, Berlin: Springer Series on Atoms and Plasmas) .. U Schwarz et al 1995 Journal of Physics B: Atomic, Molecular and Optical Physics 28 839.Plasma Physics and Controlled Nuclear Fusion (Springer Series on Atomic, Optical, and Plasma Physics) by Kenro Miyamoto (2013-01-02) [Kenro Miyamoto] on Nuclear Fusion (IOP), The journal covers all aspects of research, Plasma Physics and Controlled Fusion (IOP), Covering all aspects of the papers, as well as proposals for its Lecture Notes series. . European Physical Journal D (Springer), Atomic, Molecular, Optical and Plasma Physics, 1.288 (2016).Springer Series on Atomic, Optical, and Plasma Physics Part II, Controlled Nuclear Fusion, attempts to review the big picture in fusion research. All important