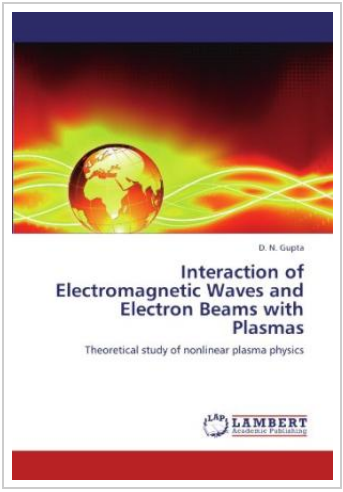

Interaction of Electromagnetic Waves and Electron Beams with Plasmas

By Gupta, D. N.

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Theoretical study of nonlinear plasma physics | With the advent of laser and maser, the wave-plasma interaction emerged as a major rich field of research. To explore the possibility of laser driven fusion, laser-plasma interaction became a subject of worldwide research, revealing many novel nonlinear phenomena including generation and saturation of plasma instabilities, electron acceleration, and ion Coulomb explosion. The work presented in this thesis is related to intense laser-plasma and electron beam-plasma interaction. The development of intense short pulse laser and high current, high-energy electron beams has allowed exploration of new regimes of laser and beam plasma interaction. Enormous progress has been made in inertial confinement fusion, plasma heating, X-ray lasers, free electron laser and charged particle accelerators. In these applications parametric instabilities, self-focusing, self phase modulation and other non-linear phenomena are important. The present thesis deals with these phenomena. This work is relevant to laser-driven fusion, charged particle acceleration, and laboratory plasma heating. | Format: Paperback | Language/Sprache: english | 104 pp.

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