

Lecture Notes in Physics 962

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Physics of Dusty Plasmas

An Introduction

Colloidal plasmas - a still emerging field of plasma physics - enable the study of basic plasma properties on a microscopic kinetic level and allow the visualization of collective plasma phenomena, like oscillations and waves. Moreover, a vast number of novel phenomena are found in these systems, ranging from Coulomb crystallization to new types of forces and waves.

Last but not least, they shed a new light on various traditional aspects of plasma physics such as shielding or the mechanism of acoustic waves in plasmas, thus providing new insight into the basic foundations of plasma physics. These course-based and self-contained lecture notes provide a general introduction to this active and growing field to students and nonspecialists, requiring only basic prior knowledge in plasma physics.

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