Complex plasmas differ from conventional high-temperature plasmas in several ways: i) they may contain additional species, including nanometer- to micrometer-sized particles, negative ions, molecules and radicals and ii) they may exhibit strong correlations (e.g. Dusty plasmas) or quantum effects. This book will provide the reader with introductory material not covered in standard plasma physics texts, together with new research results and an overview of technological applications of complex plasmas. Numerous applications of particle-containing plasmas and microplasmas are already emerging.

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