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Nota di contenuto	PRINCIPLES OF PLASMA DISCHARGES AND MATERIALS PROCESSING; CONTENTS; PREFACE; PREFACE TO THE FIRST EDITION; SYMBOLS AND ABBREVIATIONS; PHYSICAL CONSTANTS AND CONVERSION FACTORS; PRACTICAL FORMULAE; 1 INTRODUCTION; 1.1 Materials Processing; 1.2 Plasmas and Sheaths; Plasmas; Sheaths; 1.3 Discharges; Radio Frequency Diodes; High-Density Sources; 1.4 Symbols and Units; 2 BASIC PLASMA EQUATIONS AND EQUILIBRIUM; 2.1 Introduction; 2.2 Field Equations, Current, and Voltage; Maxwell's Equations; 2.3 The Conservation Equations; Boltzmann's Equation; Macroscopic Quantities; Particle Conservation Momentum ConservationEnergy Conservation; Summary; 2.4 Equilibrium Properties; Boltzmann's Relation; Debye Length; Quasi- neutrality; Problems; 3 ATOMIC COLLISIONS; 3.1 Basic Concepts; Elastic and Inelastic Collisions; Collision Parameters; Differential Scattering Cross Section; 3.2 Collision Dynamics; Center-of-Mass Coordinates;

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Drift Due to Motion Along Field Lines (Curvature Drift) Drift Due to Gyration (Gradient Drift); Polarization Drift; 4.4 Dynamics of Magnetized Plasmas; Dielectric Tensor; The Wave Dispersion; 4.5 Waves in Magnetized Plasmas; Principal Electron Waves; Principal Waves Including Ion Dynamics; The CMA Diagram; 4.6 Wave Diagnostics; Interferometer; Cavity Perturbation; Wave Propagation; Problems; 5 DIFFUSION AND TRANSPORT; 5.1 Basic Relations; Diffusion and Mobility; Free Diffusion; Ambipolar Diffusion; 5.2 Diffusion Solutions; Boundary Conditions; Time-Dependent Solution
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A Thorough Update of the Industry Classic on Principles of Plasma Processing
The first edition of Principles of Plasma Discharges and Materials Processing, published over a decade ago, was lauded for its complete treatment of both basic plasma physics and industrial plasma processing, quickly becoming the primary reference for students and professionals. The Second Edition has been carefully updated and revised to reflect recent developments in the field and to further clarify the presentation of basic principles. Along with in-depth coverage of the fundamentals of plasma physics
