

References for Low-Temperature Plasmas

Wei Tian 2020-12-17

This reference list is made for those who want to learn the physics, modeling and simulation of low-temperature plasmas. Books and papers are given with my comments which serve as a brief guidance. The list will be updated occasionally.

Book	Author	Comments
<i>Principles of Plasma Discharges and Materials Processing</i>	M. Lieberman	Classic textbook for anyone who wants to learn plasma.
<i>Plasma Physics and Engineering</i>	A. Friedman and L. A. Kennedy	Comprehensive text on low temperature plasmas.
<i>Physics of Radio Frequency Plasmas</i>	P. Chabert and N. Braithwaite	Recent monograph on RF discharges of the type used for plasma materials processing.
<i>Plasma Physics via Computer Simulation</i>	C. K. Birdsall and A. B. Langdon	Introductory text on the use of Particle-in-Cell simulations for modeling plasmas.
<i>Plasma Chemistry</i>	A. Friedman	Physics of low temperature plasmas and application to gas phase and surface chemistry.
<i>Industrial Plasma Engineering, Vol. 1 & 2</i>	P. R. Roth	Practical view of low temperature plasma physics from an engineering perspective.
<i>Partially Ionized Gases</i>	M. Mitchner	Mostly for fully ionized plasmas but good treatment of sheaths, continuity equations, and electron-ion collisions.

References for Modeling and Simulation of Plasmas

Papers	Author	Comments
<i>Foundations of modelling of nonequilibrium low-temperature plasmas</i>	L. L. Alves, A. Bogaerts, V. Guerra and M. M. Turner	Overview of PIC, kinetic and fluid model of plasma.
<i>MODELLING METHODS FOR LOW-TEMPERATURE PLASMAS</i>	G. Hagelaar	Good overview of plasma fluid model with numerical methods
<i>Simulation of a large size ICP with comparison to Exp</i>	Fan Lei	Good introduction of numerically solving field equation in an ICP
<i>Fluid model of inductively coupled plasma etcher based on COMSOL</i>	Cheng Jia	Brief description of equations needed for plasma fluid model
<i>Ion Energy Distributions in Collisionless and Collisional, Capacitive RF Sheath - thesis</i>	Ying Wang	Comprehensive overview of sheath model in CCP RF sheath
<i>Ion energy distributions in rf sheaths review analysis and simulation</i>	E. Kawamura	Analytic analysis and simulation of RF sheath
<i>Nano-Scale Feature Profile Modeling of Plasma Material Processing</i>	C. Huard	Comprehensive overview of Monte Carlo feature model