#### 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 |
| *Principles of Plasma Discharges and Materials Processing* | 1. Lieberman | Classic textbook for anyone who wants to learn plasma. |
| *Plasma Physics and Engineering* | A. Friedman and L. A. Kennedy | Comprehensive text on low temperature plasmas. |
| *Physics of Radio Frequency Plasmas* | P. Chabert and N. Braithwaite | Recent monograph on RF discharges of the type used for plasma materials processing. |
| *Plasma Physics via Computer Simulation* | C. K. Birdsall and A. B. Langdon | Introductory text on the use of Particle-in-Cell simulations for modeling plasmas. |
| *Plasma Chemistry* | 1. Friedman | Physics of low temperature plasmas and application to gas phase and surface chemistry. |
| *Industrial Plasma Engineering, Vol. 1 & 2* | P. R. Roth | Practical view of low temperature plasma physics from an engineering perspective. |
| *Partially Ionized Gases* | 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 |
| *Foundations of modelling of nonequilibrium low-temperature plasmas* | L. L. Alves, A. Bogaerts, V. Guerra and M. M. Turner | Overview of PIC, kinetic and fluid model of plasma. |
| *MODELLING METHODS FOR LOW-TEMPERATURE PLASMAS* | G. Hagelaar | Good overview of plasma fluid model with numerical methods |
| *Simulation of a large size ICP with comparison to Exp* | Fan Lei | Good introduction of numerically solving field equation in an ICP |
| *Fluid model of inductively coupled plasma etcher based on COMSOL* | Cheng Jia | Brief description of equations needed for plasma fluid model |
| *Ion Energy Distributions in Collisionless and Collisional, Capacitive RF Sheath - thesis* | Ying Wang | Comprehensive overview of sheath model in CCP RF sheath |
| *Ion energy distributions in rf sheaths review analysis and simulation* | 1. Kawamura | Analytic analysis and simulation of RF sheath |
| *Nano-Scale Feature Profile Modeling of Plasma*  *Material Processing* | C. Huard | Comprehensive overview of Monte Carlo feature model |