Fundamentals of Plasma Physics – I

Prof. Dr. Jürgen Meichsner
Institute of Physics, University of Greifswald

1.1. Physical parameters and classification of plasmas

- Characteristic length parameters, frequencies, and energies,
- Ideal, non-ideal plasmas,
- Thermal, non-thermal plasmas,
- Low-Pressure and atmospheric pressure plasmas,
- Low-temperature plasmas and high-temperature (fusion) plasmas

1.2. Physical models in plasma science (overview)

- Single (charged) particle motion in electric and magnetic fields
- Plasma as many particle system (plasma kinetics, Boltzmann equation)
- Plasma as continuum, transport equations, ambipolar diffusion