

Introductory remarks

Basic notions

- Statistical mechanics – physics of many body or macroscopic systems
- Avogadro number $N_A \approx 6 \cdot 10^{23}$
- Microscopic description
- Macroscopic description
- Thermodynamics vs. statistical mechanics
- Thermal equilibrium, non-equilibrium and evolution towards equilibrium

Recommended textbooks

1. K. Huang, *Statistical mechanics* (John Wiley & Sons, New York, 1987)
2. K. Huang, *Introduction to statistical physics*, (CRC Press, Boca Raton, 2001)
3. L.D. Landau and E.M. Lifshitz, *Statistical physics*, Part I (Elsevier Ltd., Oxford, 1980)

Lectures' content

Traditional composition

1. Thermodynamics
2. Gibbs statistical mechanics, classical and quantum
3. Kinetic theory
4. Stochastic processes