

Lecture „Theoretical Condensed Matter Physics“

Subjects

- Structure of solids
- Lattice vibrations
- Non-interacting electrons and band structure
- Electron-electron interactions
- Collective excitations
- Superconductivity
- Magnetism

Literature

- G. Czycholl, "Theoretische Festkörperphysik, Band 1&2"
- C. Kittel "Quantum Theory of Solids"
- N. W. Ashcroft & D. Mermin, "Solid State Physics"
- G. Grosso & G. Parravicini, "Solid state physics"
- J. M. Ziman, "Principles of the Theory of Solids"

Online lecture notes

- R. Valenti (U Frankfurt): https://itp.uni-frankfurt.de/~valenti/WS19_20.php
- A. Muramatsu (U Stuttgart). <https://www.itp3.uni-stuttgart.de/teaching/archive/ss13/solidstatetheory/>

Tutorials: Beginning Oct. 19th, 2021; Discussion of problem sheets

Examination: Oral examinations (January 24th & 25th; March 16th & 17th)