
SS2020: Solid State Theory

Website: https://tu-dresden.de/mn/physik/itp/ket/studium/lehre/sst_ss20

Lectures/Tutorials: Wednesday 14:50 - 16:20 at BZW/A120
Thursday 13:00 - 14:30 at BZW/A120

Due to the COVID-19 situation, the lectures will start in the form of online teaching. To attend the online lectures, it is required to install Zoom. For more details, please contact the lecturer by email.

Lecturer: Hong-Hao Tu (hong-hao.tu@tu-dresden.de)

Topics: Lattice dynamics, electron gas, electrons in a periodic potential, theory of electron transport, electrons in a magnetic field, magnetism.

Office hours: Friday 13:00 - 14:00 at BZW/A410 (or Zoom)

Tutorials: The exercises will be discussed during the tutorials.

Final exam: There is no written exam. For Bachelor and Master students who need a grade, it is required to correctly finish at least 60% of the exercises.

Oral exam: Master students can choose this course (as one of the two topics) for the oral exam “Vertiefung Theoretische Physik”. Doctoral candidates may take the oral exam in replacement for the Rigorosum or choose this course to be examined in the Rigorosum. Note that the grade earned by finishing the written exercises *cannot* be used for replacing such oral exams.

Literature:

1. U. Rössler, *Solid State Theory*, Springer (2009).
2. G. Grosso and G. P. Parravicini, *Solid State Physics*, Academic Press (2000).
3. N. W. Ashcroft and N. D. Mermin, *Solid State Physics*, Holt, Rinehart and Winston (1976).
4. G. Czycholl, *Theoretische Festkörperphysik*, Springer (2004).
5. O. Madelung, *Introduction to Solid-State Theory*, Springer (1981).