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# SS2018: Solid State Theory

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**Website:** [https://tu-dresden.de/mn/physik/itp/ket/studium/lehre/sst\\_ss18](https://tu-dresden.de/mn/physik/itp/ket/studium/lehre/sst_ss18)

**Lectures/Tutorials:** Tuesday and Wednesday, 14:50-16:20, REC/B214/H

**Lecturer:** Hong-Hao Tu ([hong-hao.tu@tu-dresden.de](mailto:hong-hao.tu@tu-dresden.de))

**Office hours:** Appointment via Email.

**Topics:** Symmetry of crystals, electrons in solids, lattice vibrations, theory of electron transport, electron gas in magnetic field, magnetism, superconductivity. See [course outline](#).

**Tutorials:** The solutions to the exercises will be discussed during the tutorials. See [course outline](#) for the accurate dates.

**Final exam:** There is no written exam. The student who needs a Schein should correctly finish at least 60% of the exercises, otherwise an oral exam will be conducted.

**Literature:**

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

There are also many other textbooks available.