Theoretical Solid State Physics 2

Module coordinator
Managing Director of the Institute of Theoretical Physics and Astrophysics

Module offered by
Faculty of Physics and Astronomy

ECTS
8

Method of grading
Numerical grade

Only after success completion of module(s)

Duration
Graduate

Module level

Other prerequisites

Contents
A possible continuation of „11-TFK“ is the following syllabus:
5. Advanced topics of the theory of superconductivity (Bogoliubov-de Gennes equations, effective field theory, Anderson-Higgs description of the Meissner effect)
6. Unconventional superconductors (e.g. copper-oxide high-Tc superconductors)
7. Green's function methods and Feynman diagrammatic technique
8. The Kondo Effect (Anderson’s “poor man’s scaling”, renormalization group)

Intended learning outcomes
Advanced knowledge of the topics listed above. In-depth understanding of both the concepts involved and ability to apply the methods listed. This provides a thorough working knowledge of a large number of topics treated in the standard textbooks on theoretical solid state physics.

Courses

Module taught in: English

Method of assessment

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Allocation of places

Additional information

Referred to in LPO I (examination regulations for teaching-degree programmes)

Module appears in

keinem Studiengang zugeordnet