IFMP Institut für Festkörper- & Materialphysik

Technische Universität Dresden

IFW Leibniz-Institut für Festkörper- und Werkstoffforschung Dresden

Superconductivity II

Compulsory elective lecture
(part of the compulsory elective module
Solid-State Physics)
Winter semester 2026/2027
Lecturer: Prof. Büchner, Dr. Grafe, Dr. Dmitri Efremov

Where?	**IFW, Helmholtzstr. 20, Room B3 E.26**
When?	**On Mondays (11.10 – 12.40 Uhr)**
First lecture:	**19.10.26, Info: superconductivity2@ifw-dresden.de**

For whom?	**Physics students from the 6th semester onwards, Master's students, PhD students (Lecture in English)**

Content:

Introduction:
Phenomena,
Type I / Type II Superconductors,
Ginzburg-Landau-Theory,
Conventional / Unconventional Superconductivity,
Superconducting Order Parameter

Iron Pnictides:
Different Families of Iron Pnictides,
Itinerant Magnetism / Spin Density Wave,
Doping Induced Superconductivity,
Phasediagrams

Cuprates:
Mott-Hubbard Model,
Local Moment Magnetism,
Doping and Competing Orders,
Superconducting Order Parameter

