



In the framework of elective subject

## **Solid State Physics (Electronic Properties):**

In the summer semester of 2021 the following optional course will be offered:

# **Symmetry Breaking in Condensed Matter Physics: An Experimental Approach**

**Dr. Rajib Sarkar**

**Where?** **Online (In Zoom)**

**When?** **Thursday 3 DS (11:10 - 12:40 Hour)**

**First Lecture on 15.04.2021**

**Suitable For?** Masters and PhD students

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### **Content of the course:**

- Why symmetry is important in Physics?
- Symmetry in Nature
- Relevance of symmetry in condensed matter physics
- Translational symmetry, rotational symmetry
- Symmetry breaking!
- Consequences of symmetry breaking
  - Phase transitions
  - Excitations
  - Critical phenomena and universality
- Symmetry breaking in magnetism and superconductivity
- Time reversal symmetry breaking
- Broken symmetry by uniaxial strain