



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**

<b>Where?</b>	<b>Online (In Zoom)</b>
<b>When?</b>	<b>Thursday 3 DS (11:10 - 12:40 Hour)</b> <b>First Lecture on 15.04.2021</b>
<b>Suitable For?</b>	<b>Masters and PhD students</b>
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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**