

From Plasma to Magnetism – Discover the World of Altermagnetic Thin Films

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We are looking for an enthusiastic undergraduate student to join our research team working on the newly discovered material group known as altermagnets. These materials are attracting attention because they combine unique electronic and magnetic properties that could lead to future advances in information technology and sensing. In our lab, we use magnetron sputtering, a plasma assisted technique, to deposit single crystalline altermagnetic thin films. High quality of the thin films is the key to unlocking the exotic altermagnetic properties, and hence one of the crucial steps towards novel applications in electronics.

As a research assistant, you will help us with the analysis of these thin films. This involves learning how to use modern materials characterization tools and how to interpret the results. We welcome students from physics, materials science, chemistry, or related fields who are curious, motivated, and eager to learn. Experience with basic data analysis or lab work is a plus but not required.

Typical activities include

- Using instruments such as scanning electron microscopy (SEM/EDS), and X-ray fluorescence spectroscopy (XRF)
- Organizing and analyzing data to understand how growth conditions affect film quality
- Contributing to discussions on improving the deposition and analysis process

What you will learn No prior experience is required - training will be provided! By joining the project, you will:

- Gain hands-on experience with advanced materials analysis techniques
- Learn about thin-film growth and modern experimental research methods
- Develop skills in data analysis, scientific reporting, and lab teamwork
- Get an introduction to the world of materials science and magnetism research

Time commitment Flexible – typically 5–10 hours per week during the semester. There is the possibility to expand the project towards bachelor's or master's project.

