We offer a student job (SHK)

Setup of a universal environment parameter logging system for a low disturbance TEM laboratory

A part of the SALVE project at Universität Ulm

Modern condensed matter physics, solid state chemistry, and materials science greatly benefit from the characterization power electron microscopes offer. Especially, nowadays aberration corrected transmission electron microscopy (TEM) provides atomic scale structural and chemical information on *e. g.* functional interfaces or nanomaterials. Nevertheless, there are still big challenges to tackle in every aspect of the technique; one of them is the damage the imaging electron beam causes in the sample to be characterized *via* several different damaging mechanisms. One way to reduce sample damage is to image with electrons that bear significantly lower energy than normally used.

In a joint project with manufacturers we developed a prototype transmission electron microscope for imaging with very low electron energies. To ensure highest performances, a new laboratory building is being built. Here, all possible electromagnetic, mechanic, acoustic, and thermal disturbances are minimized. Nevertheless, all environmental parameters need to be monitored to find and possibly eliminate new disturbance sources or correlate measurements with external influences.

The student will set up a system that records and stores data arbitrary sources, existing sensors as well as ones to be acquired.

Candidate requirements

Bachelor course in physics, information technology, or electrical engineering, basic programming skills.

Contact

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