Course: Experiments in Molecular Physics

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**Requirements for participation:**
Atomic Physics, Molecular Physics and Quantum Mechanics at the level of the bachelor courses in physics, Molecular Physics I

**Type of module examinations:**
One oral examination at the end of the module

**Duration of the course:**
1 semester

**Aims of the course:**
In this advanced lab course detailed experiments in molecular physics will be conducted. The results will be analysed and compared to literature results. A lecture helps for introduction in the related subjects. At the end of the course participants will present their work in front of the other participants. Optionally, a written report finalizes the whole course yielding additional 1.5 CP. The intention of this course is to get hands on experience with state-of-the-art experimental techniques in molecular physics.

**Contents of the course:**
- THz spectroscopy: Molecular Rotation
- Infrared spectroscopy: Molecular Vibration, ro-vibrational spectroscopy
- Raman spectroscopy: Molecular Vibration and Rotation
- Other experiments depending on availability

**Recommended literature:**
Bachelorthesis, Staatsexamen, etc....