



IRTG-Seminar

Dr. Andreas Osterwalder

Institute for Chemical Sciences and Engineering,
Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

“Studying sub-Kelvin Chemistry in Merged Neutral Beams”

I will present our research on fundamental aspects of gas-phase chemical reactions. In the past years we have developed a technique that allows us to merge two supersonic expansions using strong electric and magnetic fields. This gives us access to very low relative reactant velocities and thus to collision energies approaching 0 K. At such low energies one can access purely quantum mechanical effects in chemical reactions that are not visible at room temperature. We combine the merged beam technique with methods to orient the reactants and were recently able to study, for the first time, sub-Kelvin stereodynamics.

I will start this presentation with a general overview on recent advances in the detailed study of cold and controlled molecular scattering, as well as the principal techniques required for these. The second part of the talk will focus on recent results from our own group.

Tuesday, November 6, 2018; 6:00 p.m., HS II
Physics high rise, Hermann-Herder-Str. 3

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