

DIESE WOCHEN

PHYSIKALISCHES KOLLOQUIUM

des Fachbereichs Physik
der Johann Wolfgang Goethe-Universität Frankfurt

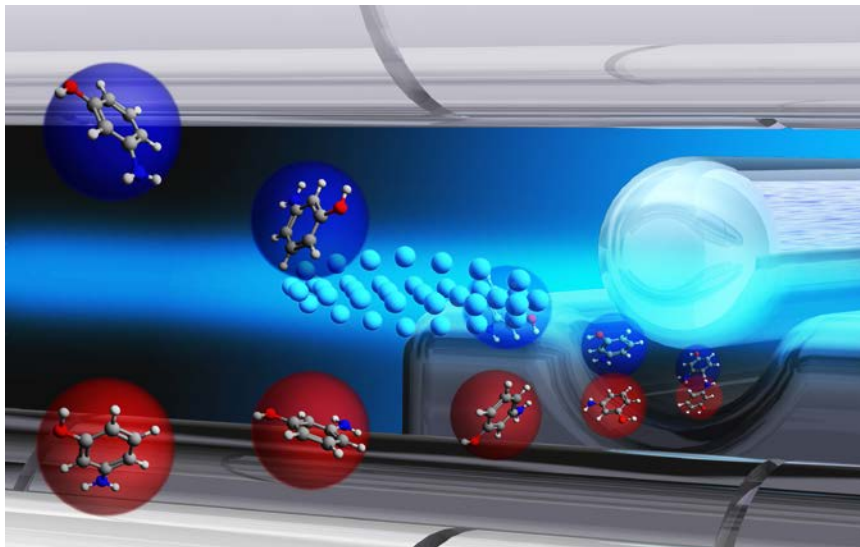
Mittwoch, den 30.10.2013, 16 Uhr c.t.
Großer Hörsaal, Raum _0.111,
Max-von-Laue-Str. 1

Prof. Dr. Jochen Küpper

Center for Free-Electron Laser Science, DESY, Hamburg

„ Getting complex molecules under control “

The recording of molecular movies, the atomically resolved structural dynamics of complex molecules, is within reach. Corresponding modern experiments in the molecular sciences range from ultrafast attosecond electron dynamics investigations of diatomic molecules to the coherent diffractive imaging of nanocrystals or viruses of biological samples. The recording of temporally and spatially atomically resolved “movies” will rely on strongly controlled molecular samples. This includes the separation of individual structural isomers or even quantum states of complex molecules, the ability to strongly fix complex molecules in space, and to deliver them to the interaction point of the probe experiment, such as modern table-top laser systems, free-electron lasers, or electron beams. I will discuss our endeavors to get complex molecules under control, including the spatial separation of different species and the one- and three-dimensional alignment and orientation. The controlled samples of such many-body quantum systems have been successfully employed in various benchmark experiments toward the recording of molecular movies and the unraveling of the structure-function relationship.



Die Dozenten der Physik

Kolloquium