

Announcement of the Lecture 21358 im WS 2015/2016 V/Ü (2+2):

Quantum Reaction Dynamics

Preliminary meeting: Thursday, 15.10.2015 12:15h, SR 34.16/17 (Takustr. 3)
Content of the lecture and the tutorials:

Why do we need time-dependent theories?
Solving the time-dependent Schrödinger equation (in exercises: write your own code)
Interaction between matter and light
Nuclear motion of diatomic molecules
Born-Oppenheimer approximation and beyond
Multidimensional vibrational dynamics
Multiconfiguration Time-Dependent Hartree (MCTDH) method and program (partially used in exercises)
Multidimensional electron dynamics (connecting to research on ultrafast energy transfer in quantum dots)

- Prerequisite: Basic knowledge of quantum chemistry from lectures on electronic structure or spectroscopy.
- There will be a weekly computer exercise which must be participated in. The final examination is along the lines of the exercise.
- Tutor: Gunter Hermann (Room 15.14)