Einladung zum „Laser-Seminar“

(gemeinsam von:
Forschungszentrum „OPTIMAS“ und Graduiertenkolleg 792)

Freitag, 08.01.2010, 10:15 Uhr, Raum 46/388

Es spricht:

Prof. Dr. Samuel Leutwyler
Universität Bern

über das Thema:

Excitonic Splitting und Vibronic Coupling in Hydrogen Bonded Dimers

Abstract:
The investigation of excitonic coupling of molecular dimers has a long history in chemical physics. We investigate the S1 ← S0 S2 ← S0 excitations of the supersonic jet-cooled 2-aminopyridine (2AP) self-dimer, (2AP)₂, and of the 2-pyridone self-dimer, (2PY)₂. The vibronic spectra of the ¹²C- and ¹³C-isotopomers were measured by two-color resonant two-photon ionization and UV/UV-depletion spectroscopies. In both systems, the S₂ ← S₀ excitation is allowed, but the S₁ ← S₀ transition is strictly forbidden. A single ¹²C/¹³C isotopic substitution breaks the symmetry of the dimer, so that the ¹³C isotopologues exhibit both S₁ and S₂ electronic origins, which are split by the excitonic interaction. In traditional linear vibronic coupling model treatments, the coupling is mediated by monomer intramolecular vibrational modes and couplings to intermolecular vibrations are not considered. For these dimers, major vibronic coupling contributions arise from the monomer 6α' vibration. Effects of the intermolecular modes are also large and an treatment will be discussed.

Der Gast wird betreut von Prof. Dr. M. Gerhards

Gäste sind herzlich willkommen.