

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Wave packet propagation of alkali dimers attached to helium nanodroplets FRANK STIENKEMEIER, Universitaet Freiburg, Germany, PATRICK CLAAS, Universitaet Bielefeld, Germany, CLAUS-PETER SCHULZ, Max-Born-Institut Berlin, Germany — Real-time spectroscopy of alkali dimers attached to helium nanodroplets has been studied by femtosecond pump-probe spectroscopy. Wave packet propagation in different electronic states of Na₂ and K₂ molecules was investigated. The perturbation of the helium environment allows in particular to observe electronic ground state vibrational motion. Furthermore, for the first time wave packets in alkali dimer triplet states are observed. Finally, the slight change of the vibrational structure when desorbing from the helium droplet can be utilized to determine desorption times upon laser excitation.

Frank Stienkemeier
Universität Freiburg

Date submitted: 26 Nov 2005

Electronic form version 1.4