DYNAMICS IN HYDROGEN BONDS -PERSPECTIVES OF INFRARED AND FAR-INFRARED SPECTROSCOPY

M. HAVENITH, *Physical Chemistry II, Ruhr-University Bochum, 44780 Bochum, Germany*.

The focus of our investigations lies in a detailed microscopic understanding of intermolecular interactions. Within the last year we have developed new radiation sources in the IR (high power continuous wave OPO) and THz frequency region (p-Ge laser). Using (high resolution) laser spectroscopy we were able to answer the following fundamental questions in chemistry and biophysical chemistry:
How fast tunnel the protons in H-Bonds?
How stiff are the hydrogen bonds in and around sugars ?
What do we learn from the low frequency modes of solvated proteins ?