

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

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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 ?