

Transient 2D-IR Spectroscopy from Micro- to Milliseconds

Peter Hamm, Department of Chemistry, University of Zurich, CH (peter.hamm@chem.uzh.ch)

Diode-pumped Yb laser/amplifiers with high average powers and high repetition frequencies around 100 kHz are an emerging technology in femtosecond sciences. However, the number of publications, which report on 2D IR instruments based on such Yb lasers, is still rather limited. The typical motivation is either higher sensitivity or collecting very many 2D IR spectra, e.g., in the context of 2D-IR microscopy. Here, another application of the high repetition rates of these lasers will be presented, transient 2D IR spectroscopy covering time-scales from a few microseconds to 10's of milliseconds. That is the typical time window of the response of photo-active proteins. A proof-of-principle experiments on bacterio rhodopsin will be discussed.