

PHYSIKALISCHES KOLLOQUIUM

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IM GROßEN HÖRSAAL

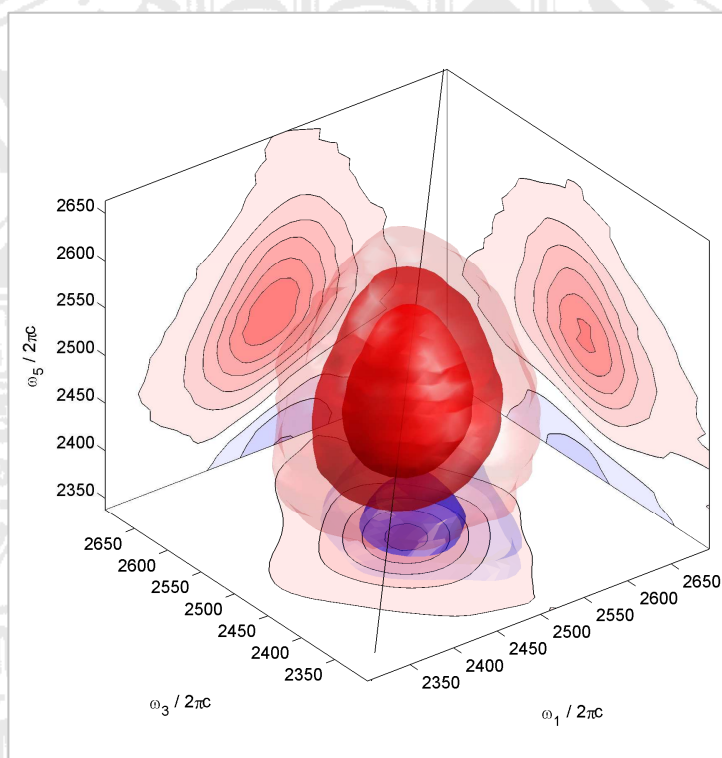


Figure: 3D IR spectrum of the OD vibration of HOD in H₂O

THE QUEST OF THE STRUCTURE OF WATER: A MULTIDIMENSIONAL IR STUDY

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Multidimensional IR spectroscopy is a powerful new technique for molecular sciences that combines appreciable structural resolution power with ultrafast time resolution. Similar to 2D-NMR spectroscopy, a spectrum is spread out into two or more dimensions, which enhances its resolution and at the same time allows one to correlate various parts of a vibrational spectrum. In my presentation, I will give a brief introduction into the basic principles of multidimensional IR spectroscopy and then discuss its applications to elucidate the ultrafast structural dynamics of water.