



Nano-Femto Group Seminar

Monday 18th October 2004, 2:15 PM
Room: SC TBA

Vibrational Dynamics of Ice (D₂O) on Ru(001).

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Sum Frequency Generation (SFG) can be used as a probe of the vibrational character of an adsorbate on a metal species. We first applied the technique to determine the structure of a bilayer of D₂O on Ru(001), a topic that is still under debate^{1,2}. Using a new pump-probe system, we measured the Free Induction Decay (FID) of the O-D vibrational stretch for both amorphous and crystalline ice layers. It was discovered that for D₂O vibrational dephasing occurs faster at lower temperatures than at higher temperatures. This effect was observed for both amorphous and crystalline ice. The results for the C-O stretch of CO on Ru(001) will also be presented as a comparison to the D₂O layer.

1. Chem. Phys. Lett. **376**, 618 (2003)
2. Phys. Rev. B **67**, 99 (2002)

If you would like to meet the speaker please contact Tobias Hertel (phone 322-2864,
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