Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

High Resolution THz Studies of Crystalline Channel Hydrates DAVID PLUSQUELLIC, SHIN CHOU, ZEESHAN AHMED, KEVIN DOUGLASS, JULIA SCHERSCHLIGT, National Institute of Standards and Technology — In this study, we use vibrationally state-resolved THz spectroscopy to examine the phonon mode structure of several peptides and carbohydrates co-crystallized with water. Studies are performed before and after the water is removed under vacuum on a range of systems for water in hydrophobic and hydrophilic environments. Predictions from first principles calculations are used to model the observed spectra and to obtain detailed energetic information on the dehydration processes. A new phase-coherent heterodyne method based on chirped THz pulses may be discussed.

David Plusquellic
National Institute of Standards and Technology

Date submitted: 11 Nov 2011 Electronic form version 1.4