Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Experimental Evidence for Internal Structure in Aqueous – Organic Nanodroplets[1] GERALD WILEMSKI, University of Missouri-Rolla, BARBARA E. WYSLOUZIL, The Ohio State University and Worcester Polytechnic Institute, REINHARD STREY, University of Cologne, Germany, CHRISTOPHER H. HEATH, Worcester Polytechnic Institute, UTA DIEREGSWEILER, Worcester Polytechnic Institute — The spatial distribution of species within an aerosol droplet influences how it interacts with its environment. Despite the ubiquity of multicomponent nanodroplets in natural and technological aerosols, there are no published measurements of their internal structure. In a recent paper [Wyslouzil, et. al., Phys. Chem. Chem. Phys. **8**, xxx, (2006)], we report the first experimental results for structure in aqueous organic nanodroplets based on small angle neutron scattering by high number density aerosols. For H_2O – n-butanol droplets, fitting of the diffraction patterns confirms the picture of an aqueous core containing $\sim$3 mol% alcohol covered by a shell of densely packed alcohol molecules.

[1]This work was supported by grants from the National Science Foundation, the Engineering Physics Program of DOE-BES, the Deutsche Forshungs Gesellshaft and NATO.

Gerald Wilemski
University of Missouri-Rolla

Date submitted: 30 Nov 2005 Electronic form version 1.4