

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Adsorption of CO₂ in hydrated MCM-41 Studied by SANS BO WANG, GARFIELD T. WARREN, MATTHEW BRYAN, PAUL E. SOKOL, Indiana University, INDIANA UNIVERSITY TEAM — Adsorption of CO₂ in hydrated MCM-41 was studied as a function of CO₂ pressure by Small-Angle Neutron Scattering (SANS). Measurements were carried out on hydrophobic Si-MCM-41 and hydrophilic Al-MCM-41 with pore sizes of 4nm with no aqueous layer as well as monolayers and bilayers of water pre-adsorbed on the surface. SANS was measured as CO₂ was introduced into the pores, which has the ability to probe the microscopic arrangement of water and CO₂ confined within the pores. We will present the results of analysis indicating whether water or CO₂ is more strongly attracted to the surface in these different samples. This study was prepared by Indiana University under award 70NANB10H255 from the National Institute of Standards and Technology, U.S. Department of Commerce.

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Date submitted: 24 Nov 2015

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