## Abstract Submitted for the MAR10 Meeting of The American Physical Society

Fractal Structure in Hydrogen and Methane Storage Materials<sup>1</sup> PETER PFEIFER, MICHAEL KRAUS, Department of Physics, University of Missouri — For nearly 30 years, fractal characteristics have been used to describe physical properties of disordered materials. Small Angle X-ray Scattering (SAXS) and adsorption isotherms are two experimental techniques that have been used successfully estimate the fractal dimension (the *D*-dimensional Hausdorff measure) of porous media systems. We present the fractal structure of amorphous nanoporous carbons used for hydrogen and methane storage. Measurements from USAXS\SAXS and N<sub>2</sub> isotherms are compared and contrasted. The implication of how the sample topology of these materials may influence both the availability and number of potential binding sites for hydrogen or methane storage is discussed.

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