

**2008 APS March Meeting**  
**Monday–Friday, March 10–14, 2008; New Orleans, Louisiana**

**Session C1: Poster Session I: 2:00 pm - 5:00 pm**

2:00 PM–2:00 PM, Monday, March 10, 2008

Morial Convention Center - Exhibit Hall A

Sponsoring Unit: APS

**Abstract: C1.00295 : Universal and nonuniversal supercritical adsorption in pores**

[Preview Abstract](#)

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A recent study of gas adsorption in porous carbons found a common trend in the gas uptake as a function of reduced pressure at the same relative supercritical temperature, with the exception of hydrogen [1]. Using analytical expressions (Henry's law) and computer simulations (quantum and classical) we demonstrate that the "universal" behavior of the classical gases and the "deviant" behavior of hydrogen can both be understood from simple combining rules and the role of quantum effects. Thus, we reject a hypothetical explanation of the data in terms of small pores permitting just hydrogen to enter.\newline [1] D. F. Quinn, Carbon 40, 2767 (2002).