

## **261c Accurate Hydrogen Sorption Measurements Via Differential Pressure Analyses**

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A differential pressure adsorption unit (DPAU) has been constructed which is capable of accurately measuring isotherm data up to 2400 psia with as little as 50 mg of sample. This non-traditional adsorption/desorption method has been benchmarked by comparing hydrogen and methane isotherms measured with standard volumetric and gravimetric instruments on a NaA (4A) zeolite and an activated carbon at near ambient temperatures. The results from stability tests and a discussion of the mathematical analysis will be provided as well as a discussion of the unit's recent application in measuring credible hydrogen sorption isotherms on a series of well-defined single walled carbon nanotubes.