



Improved gravimetric setup

Technology Summary

A method is disclosed for characterizing a material's porous nature faster than current porosimetry techniques. Gas uptake is measured by dosing a certain amount of gas into the sample holder. The adsorption system is kept under isothermal condition for a certain amount of time. Then, the current gas uptake is chosen as the target uptake and a unique pressure control algorithm is used to damp gas uptake changes as fast as possible.

Application & Market Utility

Porous materials are used in catalysis, gas separation, gas storage, and environmental protection such as CO₂ and NH₃ adsorption.

The proposed technique can be applied to any in use instruments through the use of simple modifications. Gravimetric instruments require only that a simple change in control program software. Volumetric systems require a piston-cylinder compartment be added.

Next Steps

Patent 9,274,040 issued 3/11/2014. Seeking licensing opportunities.

TECHNOLOGY READINESS LEVEL

4-7

Seeking

Investment | Licensing | Research

Keywords

- gas separation
- porous materials
- gas storage
- porosimetry
- gas adsorption

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