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Oscillation Method for Measuring Gas Storage in MCM-41

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The total storage of gas in a mesoporous material MCM-41 with adsorption/capillary condensation was measured using a new oscillation-based method. With an improved setup and procedure, the accuracy of the measured isotherm was significantly improved. Experiments were conducted using both condensable (propane and carbon dioxide) and non-condensable (argon and methane) gases. The results show that this method can be used to measure not only the total storage of gas but also the excess due to adsorption/capillary condensation with considerable accuracy. In experiments conducted with propane, the occurrence of capillary condensation, which increased the total storage of gas, was well depicted.

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References

Conference Proceedings

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