

Dynamic Charge and Discharge of Methane on Bio-carbon Monoliths

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The methane storage and deliverable capacities of novel corn-grain based bio-carbon monoliths, which were prepared by compressing the mixture of the powdered form of corn-grain-based activated carbon and polymeric binder, were assessed by using a dynamic sorption analyzer at isotherm condition. Here, the fixed pressure conditions for charge and discharge studies were 40 and 2 atm. In particular, the deliverable capacity and temperature fluctuation during the cyclic operations were investigated in detail. Furthermore, the validity of the obtained results were analyzed by developing a model for both charge and discharge studies.