

Adsorption on Nanoporous Substrates

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The talk will summarize recent adsorption isotherm results obtained in our laboratory on carbon nanohorns and on two different porous Metallo-organic framework (MOF) materials. We will present results of Ne and CF₄ adsorption on carbon nanohorn aggregates. The experimental results will be compared to computer simulations for these same systems. Such a comparison provides insights into the arrangement of the aggregates of these novel carbon materials. Two MOFs, with different pore dimensions, were used in the experiments on which we explored the sorptive behavior of argon and tetrafluoromethane. By comparing how adsorption of these two gas species proceeds on the two different substrates, we illustrate how members of this new class of porous materials may, in principle, be used for gas separation applications.