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THE NUMERICAL ANALYSIS OF THE ADSORPTION PROCESS ON METAL-ORGANIC FRAMEWORKS

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In this work, adsorption properties of nitrogen and hydrogen on a specific type of a metal organic framework (MOF), Basosiv M050 sample were determined by a volumetric method. The nitrogen adsorption isotherms were studied at 77 K and hydrogen adsorption isotherms were studied at 273 K. Surface properties of the MOF sample were determined using the nitrogen and hydrogen adsorption isotherms. Hydrogen adsorption capacity of the sample was also calculated from the isotherm analysis. Additionally, the new numerical method with the unique fast multivariant identification procedure was employed for the analysis of the adsorption process on the MOF sample. The used numerical method yielded a wide range of information about the adsorption process in analysed material and its structure.

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