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**Numerical study of the thermal behaviours of the  
absorbent bed for storing a natural gas at  
adsorbed state with low pressure in a vessel**

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**ABSTRACT**

Energy and environmental problems of the economy in the world, especially in metropolitan areas, particularly, ones caused by vehicles, is now becoming important and one of the main ways of solving this problem is using a natural gas. Widespread use of gaseous fuel economy heavily restricted fuel storage problems in containers under high pressure (20-25 MPa) or liquefied gas at low temperatures (-160 ° C). One of the most promising solutions to the problem is to develop a vessel on the basis of adsorption technology, designed for efficient storage of natural gas at moderate pressures (1.5-2 MPa).

**Keywords:**

*Adsorbed natural gas, sorption kinetics, vessel, numerical study*