Experimental and simulation for hydrogen separation using 4-bed PSA form $CH_4/CO/CO_2/H_2$

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An experiment and simulation were performed for hydrogen separation of mixtures gases by PSA process with activated carbon and zeolite 5A. The effect of two operating variables such as adsorption time and flow rate on the performance of layered bed PSA were investigated. The cyclic performances such as purity and recovery of 4bed-10step PSA process were experimentally and theoretically compared under non-isothermal and non adiabatic model considering linear driving force model and dual-site langmuir isotherm.