# Adsorption of molecular hydrogen on nanostructured surfaces

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The effect of the structural features of idealized nanoporous environments on the adsorption of molecular hydrogen is investigated. The adsorption properties of the target nanostructures are evaluated in a broad range of thermodynamic conditions, within the density functional theory for quantum fluids at finite temperature (QLDFT) [1]. The excess functional is derived from the empirical equation of state of the homogeneous system. Emphasis is made on the evaluation of hydrogen storage capacities of the substrates [2, 3] and on the emergence of quantum effects triggered by the confinement imposed by the host structure [4].

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