

Abstract Submitted
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Adsorption of Argon on a surface with nano-scaled pores.¹ SILVINA GATICA, NATHAN URBAN, MILTON COLE, Penn State University — We have performed Grand Canonical Monte Carlo simulations of the adsorption of Argon on a flat surface which is pierced by a periodic array of perpendicular, cylindrical pores, which are several nanometers wide and deep. We have studied various substrates and geometrical arrangements of the pores. The adsorption isotherms show a strong dependence on strength of the substrate attraction and the depth of the pores. For example, in the case of strongly attractive substrates, a film grows on the internal surface of the hole and outer surface before capillary condensation occurs. On the contrary, if the substrate is weakly attractive, no layer growth was observed prior to capillary condensation, if it occurs.

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