

APPLICATION OF JÄNTTI'S METHOD FOR GENERAL USE

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In 1972 Jäntti published an elegant method for the fast calculation of adsorption data from gravimetric measurements: After a change of the gas pressure the actual adsorbed amount is measured at equidistant three times and from these values the adsorption equilibrium is calculated [1]. This procedure could be used for samples satisfying simple molecular adsorption models, described by a first order differential equation. The method is not only attractive because it gives a quick estimate of the equilibrium value of the adsorbed mass but also because the calculation involved does not require the use of curve fitting procedures. In former papers we showed how Jantti's method can be used in the case of the adsorption of gases onto heterogeneous surfaces. We suggested that it could be applied for the treatment of adsorptions governed by more complicated differential equations [2],

In the present poster we shall give the results of using Jäntti's method to computer simulated adsorption and desorption experiments using a second order differential equation.

1 O. Jäntti, J. Junntila, E. Yrjänheikki: On curtailing the micro-weighing time by an extrapolation method. In: T. Gast, E. Robens (eds.): Progress in Vacuum Microbalance Techniques, Vol. 1. Heyden, London 1972, p. 345-353.

2 E. Robens, C.H. Massen, J.A. Poulis, P. Staszczuk: Fast measurements of adsorption on porous materials using Jäntti's method. Adsorption Science and Technology 17 (1999) 10, 801-804.