

Abstract Submitted
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Quartz Microbalance Measurement of Adsorption Potential Well-Depths RYAN FOLTZ, RAFAEL GARCIA, Worcester Polytechnic Institute — Changes in the resonant frequency of a quartz crystal microbalance (QCM), can be used to measure film thicknesses on the order of 0.1 monolayer or less that are adsorbed on the microbalance's electrode surfaces. The well-depth of the adsorption potential for molecules on a flat surface is a key parameter for determining the wetting transition temperature for molecules on that surface. However, it is a difficult quantity to predict with precision using theoretical models. We will examine the viability of using the adsorption on the QCM at low pressures to determine the well-depth of the adsorption potential for nitrous oxide and other polar molecules on flat surfaces. We will compare our data with available theoretical predictions.

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