

Abstract Submitted
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Wetting of microspheres, rods and nanotubes using the AFM JUN MA, Johns Hopkins University, JAY WALLACE, MACS Consulting, PATRICIA MCGUIGGAN, Johns Hopkins University — An atomic force microscope (AFM) is used to measure the meniscus force on microspheres, rods and nanotubes as the material is pulled through an air/liquid interface. A fluid bridge forms between the liquid and the material as it is pulled out of the liquid. During retraction, the force reaches a maximum as the bridge necks down and finally detaches from the surface. The force distance curve can be used to determine the surface tension and contact angle. In particular, the values of the maximum force and zero force are used for the analysis. Contact angle hysteresis was observed as the material was pushed into the droplet and withdrawn from the droplet.

Jun Ma

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