

Abstract Submitted
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Tribological Characterization of Nanoclustered Lead Films KEELEY M. STEVENS, JACQUELINE KRIM, North Carolina State University — For thin films of Pb on Ti, a system which does not wet, it is known that when studying coverages below the percolation transition measurement of surface friction via a sliding gas monolayer is an effective probe of electronic structure for the isolated lead nanoclusters.¹ This technique is capable of studying superconductors as they pass through the transition temperature. Motivated by on-going reports of quantum size effects in thin lead films grown on Si(111)² and Cu(001),³ we examine the issue of nitrogen adsorption⁴ onto such nanostructured films. Funding provided by NSF DMR.

¹Highland, M. et al. in preparation.

²Ozer, M. et al. *J. Low Temp Phys.* **2009**, 157: 221-251.

³Li, W. et al. *Phys.Rev.B* **1993**, 48, 11: 8336-8344.

⁴Krim, J. and Widom, A. *Phys. Rev. B* **1988**, 38: 12184-12189.

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