

Abstract Submitted
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Cryolubricity in Atomic Scale Friction on YBCO Surface¹ IGOR ALTFEDER, Air Force Research Laboratory, JACQUELINE KRIM, North Carolina State University — The unique capabilities of ultra high vacuum AFM have been used to characterize temperature dependent friction on YBCO surface. We observed a significant decrease of friction upon cooling of YBCO samples to low temperatures. Our observation indicates the crucial role of electronic and phononic mechanisms of friction in solids at low temperatures. We will discuss the possible mechanisms of cryolubricity in high temperature superconductors.

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