

Abstract Submitted  
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**Interaction of vortices in thin superconducting films and Berezinskii-Kosterlitz-Thouless transition**<sup>1</sup> VLADIMIR KOGAN, Ames Lab  
— The precondition for the BKT transition in thin superconducting films, the logarithmic intervortex interaction, is satisfied at distances short relative to  $\Lambda = 2\lambda^2/d$ ,  $\lambda$  is the London penetration depth of the bulk material and  $d$  is the film thickness. For this reason, the search for the transition has been conducted in samples of the size  $L < \Lambda$ . It is argued below that film edges turn the interaction into near exponential (short-range) thus making the BKT transition impossible. If however the substrate is superconducting and separated from the film by an insulated layer, the logarithmic intervortex interaction is recovered and the BKT transition should be observable.

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