

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Influence of thermal phase fluctuations on the spectral density function in a 2D d-wave superconductor¹ MAXIM KHODAS, ALEXEI TSVELIK, Brookhaven National Laboratory — We present the study of the spectral density for a two-dimensional superconductor in a regime of strong phase fluctuations. The focus of the talk is on *d*-wave superconductors. We obtain analytical expressions for the Green function below the transition temperature and have worked out a way to extrapolate it for finite temperatures above T_c . The quasi-classical approximation is inapplicable in the vicinity of the nodes of the order parameter. We have summed the most singular terms of the perturbation theory in pairing potential. Along with analytical expressions we present the qualitative features of the spectral function.

¹We acknowledge support by the US DOE under contract number DE-AC02-98 CH 10886, Center for Emerging Superconductivity funded by the U.S. Department of Energy, Office of Science, BNL LDRD grant 08-002

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Date submitted: 20 Nov 2009

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