

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Non-Fermi liquid and pairing in electron-doped cuprates¹ ANDREY CHUBUKOV, University of Wisconsin, PAVEL KROTKOV, University of Maryland — In electron-doped cuprates near optimal doping we show that in the normal state the fermionic self-energy has a non-Fermi liquid form leading to peculiar frequency dependencies of the conductivity and the Raman response. We solve the pairing problem and demonstrate that T_c is determined by the curvature of the Fermi surface, and the pairing gap $\Delta(\mathbf{k}, \omega)$ is strongly non-monotonic along the Fermi surface. The normal state frequency dependencies, the value of $T_c \sim 10K$ and the \mathbf{k} -dependence of the gap agree with the experiment.

¹Supported by NSF DMR 0240238.

Pavel Krotkov
University of Maryland

Date submitted: 30 Nov 2005

Electronic form version 1.4