

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Absolute penetration depth measurements in deuterated organic superconductor κ -(ET)₂Cu[N(CN)₂]Br¹ TYSON OLHEISER, N. SALOVICH, R.W. GIANNETTA, University of Illinois at Champaign-Urbana, J. SCHLUETER, Chemistry and Materials Science Divisions, Argonne National Laboratory — Penetration depth measurements were performed on fully deuterated κ -(ET)₂Cu[N(CN)₂]Br, an organic superconductor. A novel aluminum plating technique was used to determine the absolute penetration depth $\lambda(T)$. As the cooling rate is varied from 30 mK/min to 180 K/min we observe systematic changes in T_C , superconducting fraction and $\lambda(T)$. The data is analyzed using a model of superconducting domains embedded in an antiferromagnetic background.

¹Work at UIUC supported by NSF DMR 05-03882.

Tyson Olheiser

Date submitted: 30 Nov 2007

Electronic form version 1.4