

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Absolute Penetration Depth in MgB₂ NICHOLAI SALOVICH, RUSSELL GIANNETTA, Loomis Laboratory of Physics, Univ. of Illinois at Urbana-Champaign, Urbana IL 61801, MATT TILLMAN, PAUL CANFIELD, Ames Laboratory and Department of Physics and Astronomy, Iowa State University, Ames, Iowa 50011 — Absolute penetration depth measurements were carried out on single crystals of MgB₂. $\lambda(0)$ was determined by sputtering an Al film onto the sample crystal and measuring the change in Meissner screening as the Al film expels flux. The change in screening was measured with a tunnel diode oscillator [1]. Several samples were sputtered with films of different thicknesses and measured. Thickness dependent changes in H_c and T_c of the thin Al films provided a self-consistency check on properties of the films. Subsequent analysis using FIB/SEM and AFM independently measured the film thickness and roughness. Work at UIUC supported by NSF DMR-05-03882. Work at the Ames Laboratory was supported by the Department of Energy, Basic Energy Sciences under Contract No. DE-AC02-07CH11358. [1] R. Prozorov, et al, Appl. Phys. Lett. 77, 4202 (2000)

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Date submitted: 17 Dec 2008

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