

Abstract Submitted  
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**Magnetic Penetration Depth in Tl-2201: Disentangling the In- and Out-of-plane Components**<sup>1</sup> S. MAHYAD AGHIGH, JORDAN BAGLO, JAMES DAY, The University of British Columbia, DARREN PEETS, Seoul National University, PINDER DOSANJH, RUIXING LIANG, WALTER HARDY, DOUG BONN, The University of British Columbia — Investigation of  $\text{Tl}_2\text{Ba}_2\text{CuO}_{6+\delta}$  (Tl-2201) properties is important as it provides access to the overdoped side of the superconducting dome in a material with relatively low quasiparticle scattering rates. As one of the most fundamental characteristics of a superconductor, we have measured the magnetic penetration depth,  $\lambda(T)$ , for a single crystal of Tl-2201 with  $T_c = 43$  K using a loop-gap cavity perturbation technique well established by our group. Taking advantage of the tetragonal structure of this cuprate, as well as the existing measurements of the absolute value of the penetration depth at zero temperature, the in- and out-of-plane components,  $\lambda_{ab}(T)$  and  $\lambda_c(T)$  have been determined. In this talk I will describe the measurement technique, the disentangling procedure, as well as the degree of reliability of the results.

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