

Abstract Submitted  
for the MAR13 Meeting of  
The American Physical Society

**Microwave conductivity survey of  $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ : from underdoped to overdoped** JORDAN BAGLO, JAMES DAY, PINDER DOSANJH, RUIXING LIANG, WALTER HARDY, DOUG BONN, University of British Columbia — Recent experimental results and theoretical proposals suggest significant changes in the electronic structure of the high- $T_c$  cuprate superconductors as one approaches optimal doping, including Fermi surface reconstruction associated with proposed electronic ordering transitions. As sensitive probes of the low-energy electrodynamics, microwave surface resistance and penetration depth measurements - from which the real and imaginary parts of the microwave conductivity may be extracted - are well-suited for investigating such changes in the electronic structure of the cuprates across their phase diagram. Here we present preliminary results of a detailed and systematic doping dependence study of the microwave conductivity of the cuprate superconductor  $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$  from the underdoped to the overdoped regime. The implications of these results for various proposed scenarios will be discussed.

Jordan Baglo  
University of British Columbia

Date submitted: 04 Dec 2012

Electronic form version 1.4