

Abstract Submitted
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Weak scattering sources in $\text{YBa}_2\text{Cu}_3\text{O}_{6.5}$ JAMES DAY, JORDAN BAGLO, JAKE BOBOWSKI, SHUN CHI, PINDER DOSANJH, RINAT OFER, BRAD RAMSHAW, LYNNE SEMPLE, RUIXING LIANG, WALTER HARDY, DOUG BONN, University of British Columbia — We have measured the microwave conductivity of ultra-high purity single crystal $\text{YBa}_2\text{Cu}_3\text{O}_{6.5}$ as a continuous function of frequency (0.5 to 20 GHz) and at low temperatures. The samples were prepared in the highly ordered ortho-II phase, in which the off-plane oxygen atoms are arranged into alternating full and empty chains. Measurements were taken in this ordered state and then, following heating and rapid quench cooling, again in a disordered state. Our results help to illuminate the roles of both cation impurities and of CuO chain oxygen disorder as sources of in-plane quasi-particle scattering in ultra-high purity YBCO.

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