

Abstract Submitted
for the TSF10 Meeting of
The American Physical Society

Study of novel configuration of columnar defects in the high temperature superconductor $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ ¹ LAUREN DORSETT, ANDRA TRONCALLI, Austin College, LISA PAULIUS, Western Michigan University, WAI -K KWOK, Argonne National Laboratory, AUSTIN HOWARD, NICHOLAS CORNELL, ANVAR ZAKHIDOV, University of Texas at Dallas — Columnar defects have proven to be highly effective at pinning vortices in high temperature superconductors. However, most studies have been performed with the defects oriented either *perpendicular* or at large angles relative to the superconducting Cu-O planes. Our study is novel due to the introduction of defects *parallel* to the superconducting planes. We will discuss the effect of the defects on the vortex pinning anisotropy of the $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ single crystals.

¹This work was supported through the Cottrell College Science Award 7723, provided by the Research Corporation for Science Advancement.

Andra Troncalli
Austin College

Date submitted: 24 Sep 2010

Electronic form version 1.4