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Improved Ordering of the Ortho-II Phase of YBCO LYNNE SEMPLE, JORDAN BAGLO, JAKE BOBOWSKI, SHUN CHI, JAMES DAY, PINDER DOSANJH, RINAT OFER, BRAD RAMSHAW, RUIXING LIANG, WALTER HARDY, DOUG BONN — The cuprate $YaBa_2Cu_3O_{6.5}$ is a widely studied superconductor. Cation defects have been decreased in our group by using higher purity sample reagents. We attempt to further improve sample quality by decreasing point defects and domain boundaries in the Cu-O chains of the highly ordered ortho-II phase using a unique low temperature (400 to 300 K) annealing procedure. The point defects may be vacancies in the full chains or oxygen atoms in the empty chains; domain boundaries may be defined by a break in the alternating full-empty chain ortho-II symmetry. DC resistivity measurements are made during annealing to allow for the ordering process to be monitored. Preliminary results will be presented.

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