

Abstract Submitted
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Growth and characterization of large $\text{HgBa}_2\text{CuO}_{4+\delta}$ single crystals GUICHUAN YU, XUDONG ZHAO, LI LU, GUILLAUME CHABOT-COUTURE, MARTIN GREVEN, Stanford University — Using flux techniques, we have been able to grow unprecedentedly large $\text{HgBa}_2\text{CuO}_{4+\delta}$ (Hg1201) single crystal, exceeding 20 mm^3 in volume. Hg1201 is a model high-temperature superconductor, with the highest T_c ($\sim 97 \text{ K}$ at optimal doping) among all single-layer cuprates and a simple tetragonal crystal structure. X-Ray and neutron scattering measurements demonstrate the single-grain nature of our crystals. We report results for the uniform susceptibility and the resistivity. Measurements of the c -axis resistivity and magnetoresistance were used to determine the pseudogap temperature at several hole densities.

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