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Refined crystal growth and characterization of the high-T_c superconductor $HgBa_2CuO_{4+\delta}$ YUAN LI, Department of Physics, Stanford University, NEVEN BARISIC, Stanford Synchrotron Radiation Laboratory, GUILLAUME CHABOT-COUTURE, Department of Applied Physics, Stanford University, YONG-CHAN CHO, Stanford Synchrotron Radiation Laboratory, GERTJAN KOSTER, G-LAM, Stanford University, GUICHUAN YU, Department of Physics, Stanford University, XUDONG ZHAO, Department of Physics, Jilin University, MARTIN GREVEN, Department of Applied Physics, Stanford University — Among the high-T_c superconductors, $HgBa_2CuO_{4+\delta}$ (Hg1201) is one of the most desirable systems for experimental study due to its relatively simple structure and high T_c. For quantitative experimental work, it is necessary to grow sizable, high-quality crystals, and to obtain fine oxygen/doping control. Here we report on our most recent improvements in the growth and characterization of Hg1201, leading to further improved sample quality. Our new results include charge transport, magnetic susceptibility, and x-ray photoelectron spectroscopy (XPS) measurements.

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