

Abstract Submitted
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Exfoliated Thin Crystals: A New Platform For Exploring Cuprate Physics LUKE SANDILANDS, GRIGORY CHUGUNOV, University of Toronto, SHIMPEI ONO, Central Research Institute of Electric Power Industry, PHILIP KIM, Columbia University, YOICHI ANDO, Osaka University, KENNETH BURCH, University of Toronto — Electrostatic doping is a promising method for separating the effects of carrier density and disorder in the cuprates. To this end, we have produced exfoliated micro-samples of underdoped Bi-2212 on SiO₂/Si substrates. Using this method we reliably produce crystals on the order of hundreds of square microns and as thin as a few unit cells. We present the results of extensive atomic force, optical and polarized Raman microscopy studies of these samples. Taken together these results clearly demonstrate these thin crystals have the same properties as bulk Bi-2212.

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