

Abstract Submitted  
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**Dynamic charge order and superconductivity in lightly doped  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  thin films**<sup>1</sup> XIAOYAN SHI, D. POPOVIC, Dept. of Phys. & Natl. High Magnetic Field Lab., Florida State Univ., C. PANAGOPOULOS, Dept. of Phys., Univ. of Crete and FORTH & Div. of Phys. and Appl. Phys., Nanyang Tech. Univ., A. BOLLINGER, G. LOGVENOV, I. BOZOVIC, Brookhaven Natl. Lab. — Recent experiments have demonstrated the existence of a charge glass state at very low temperatures deep within the spin glass phase ( $T \ll T_{SG}$ ) in lightly doped, insulating  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  (LSCO) with  $x = 0.03$ . Here we use magnetotransport measurements in a series of high quality MBE-grown LSCO films ( $x = 0.03, 0.05, 0.055, \text{ and } 0.06$ ) to investigate the doping dependence of this dynamically inhomogenous, charge ordered state as the superconductor-insulator transition (SIT) is approached. We show that the charge glassiness is suppressed with doping. Nevertheless, close enough to the SIT on the insulating side, it coexists and competes with superconducting fluctuations (SCFs), leading to a suppression of SCFs at low  $T$ .

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