

Abstract Submitted  
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**Suppression of superconductivity and spin-glass behavior in Cu-doped  $\text{K}_{0.8}\text{Fe}_2\text{Se}_2$** <sup>1</sup> RONGWEI HU, JOHN-PIERRE PALIONE, SHANTA SAHA, RICHARD GREENE, Center for Nanophysics & Advanced Materials and Department of Physics, University of Maryland — Single crystals with nominal compositions of  $\text{K}_{0.8}\text{Fe}_{2-x}\text{Cu}_x\text{Se}_2$  were grown and studied with low temperature electrical transport and magnetic susceptibility measurements. We show that the superconductivity present in undoped  $\text{K}_{0.8}\text{Fe}_2\text{Se}_2$  crystals with transition temperature of 31 K is very quickly suppressed with Cu doping into the Fe site, and the system very quickly becomes insulating. We discuss anomalous behavior at higher doping, including spin-glass like behavior with further Cu doping.

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