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Evolution of magnetoresistance peak on disordered systems¹ YEONBAE LEE, University of Minnesota, Minneapolis — Measurements of the electric and magnetic properties of amorphous indium oxide films are reported. The carrier densities of films have been tuned by employing electrostatic gating using electric double layer transistor (EDLT) configurations employing the ionic liquid DEME_TFSI. We have observed the emergence of the magnetoresistance peak as films are tuned from the insulating to the superconducting regimes, and its disappearance as the system is doped further with additional carriers. The result also demonstrates the reversible tuning of the superconductor-insulator transition with low gate voltages

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