

Abstract Submitted  
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**Electric-field effect on  $\text{La}_{0.9}\text{Ba}_{0.1}\text{MnO}_3$  strained films.** CHENG-PANG LIN, Y.H. HO, HSIUNG CHOU, Department of Physics and Center for Nanoscience and Nanotechnology, National Sun Yat-sen University, Kaohsiung, Taiwan — Electric field effect on superconducting films can modulate the carrier concentration of the films and the superconducting transition temperatures. Although the change of the carrier concentration is relatively small at a field of around  $10^8$  V/cm,  $T_C$  can be altered in a range as wide as few degrees. In this study, a  $\text{La}_{0.9}\text{Ba}_{0.1}\text{MnO}_3$  strained films with a thickness of 20nm was constructed into similar geometry as earlier reports, various gate voltages, equivalent to  $0\sim 10^6$  V/cm, were applied while measuring resistances as a function of temperature around the metal-insulator transition temperatures. It is found that the  $T_C$  and the resistance at constant temperature changes sharply at low gate voltage and saturated to a certain value at large gate voltage.

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