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**Identifying Read/Write Speeds for Field-Induced Interfacial Resistive Switching.** STEPHEN TSUI, NILANJAN DAS, YAQI WANG, YUYI XUE, Texas Center for Superconductivity at the University of Houston, C.W. CHU, Hong Kong University of Science and Technology; Texas Center for Superconductivity at the University of Houston; Lawrence Berkeley National Laboratory — Efforts continue to explore new phenomena that may allow for next generation nonvolatile memory technology. Much attention has been drawn to the field-induced resistive switch occurring at the interface between a metal electrode and perovskite oxide. The switch between high (off) and low (on) resistance states is controlled by the polarity of applied voltage pulsing. Characterization of Ag-$Pr_{0.7}Ca_{0.3}MnO_3$ interfaces via impedance spectroscopy shows that the resistances above $10^6$ Hz are the same at the on and off states, which limits the reading speed to far slower than the applied switching pulses, or device write speed at the order of $10^7$ Hz. We deduce that the switching interface is percolative in nature and that small local rearrangement of defect structures may play a major role.

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