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**Electrical Characterization of Temperature Dependent Resistive Switching in $\mathbf{Pr_{0.7}C_{0.3}MnO_3}$** MELINDA LOPEZ, CHRISTOPHER SALVO, STEPHEN TSUI, California State University San Marcos — Resistive switching offers a non-volatile and reversible means to possibly create a more physically compact yet larger access capacity in memory technology. While there has been a great deal of research conducted on this electrical property in oxide materials, there is still more to be learned about this at both high voltage pulsing and cryogenic temperatures. In this work, the electrical properties of a PCMO-metal interface switch were examined after application of voltage pulsing varying from 100 V to 1000 V and at temperatures starting at 293 K and lowered to 80 K. What was discovered was that below temperatures of 150 K, the resistive switching began to decrease across all voltage pulsing and that at all temperatures before this cessation, the change in resistive switching increased with higher voltage pulsing. We suggest that a variable density of charge traps at the interface is a likely mechanism, and work continues to extract more details.

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