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Resistive Switching Characteristics of Ag Doped Ge_{0.5}Se_{0.5} Solid Electrolyte

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Resistance-change Random Access Memory (ReRAM) memory, which utilizes electrochemical control of metal in thin films of solid electrolyte, shows great promise as a future solid state memory. The technology utilizes the electrochemical formation and removal of metallic pathways in thin films of solid electrolyte. Key attributes are low voltage and current operation, excellent scalability, and a simple fabrication sequence. In this work, we investigated the nature of thin films formed by photo doping of Ag⁺ ions into chalcogenide materials for use in solid electrolyte of Resistance-change RAM devices and switching characteristics.

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