

Polymer:Nanoparticle Nonvolatile Memory Devices with
Electrode-Sensitive Resistive Switches

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A polymer film blended with metal nanoparticles can exhibit resistive switches and can be used as nonvolatile memory devices. They have advantages of low fabrication cost and rapid switches. Early works suggest that the resistive switches are insensitive to the electrodes. Here, I will report electrode-sensitive resistive switches observed on polymer films blended with metal nanoparticles capping with conjugated organic ligands. The effects of the organic ligands, electrodes and polymer matrix will be elucidated. A model is proposed for the electrode-sensitive resistive switches.