

Abstract Submitted
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Resistance Memory Switching behavior in MnOx, FeOx, CoOx, and NiOx thin films. RANJU JUNG, SUNAE SEO, DOUNGCHIRL KIM, CHANG-WON LEE, Samsung Advanced Institute of Technology, INKYUNG YOO, Samsung Advanced Institute of Technology, SANGHOON KIM, BAEHO PARK, Konkuk University — We have fabricated the ReRAM(Resistance change Random Access Memory) with some ferromagnetic transition metal(Co, Fe, Mn) oxides materials. Antiferromagnetic NiOx film is well known to show non-volatile resistance switching property. Here, we have studied the relationship between magnetic property and resistance switching properties. We have deposited the MnOx, FeOx, CoOx, and NiOx thin films on Pt/Ti/SiO₂/Si (111) by using Pulsed Laser Deposition (PLD), and then analyzed the structural properties of these oxides thin films by using X-Ray diffraction (XRD) and Scanning Electron Microscope (SEM), surface properties using Atomic Force Microscope (AFM), and electrical properties using probe station. Every thin film shows poly-crystalline behaviors and reproducible resistance switching behaviors. We have performed the temperature-dependent electrical property measurement across the Neel temperature.

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