

## **Effect of SrRuO<sub>3</sub> buffer layers in enhancing resistance changing of Pr<sub>0.7</sub>Ca<sub>0.3</sub>MnO<sub>3</sub> films for nonvolatile memory application**

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Pr<sub>0.7</sub>Ca<sub>0.3</sub>MnO<sub>3</sub> (PCMO) films are candidates for the active material in non-volatile memory devices. The PCMO films based metal-insulator-metal (MIM) devices showed a resistance-switching behavior at room temperature. In this work, resistance change of PCMO films deposited on the SrRuO<sub>3</sub> (SRO) buffer layers by using rf-magnetron sputtering system is investigated at room temperature. The ratio of the resistance change of the PCMO films with SRO buffer layers in the high-resistance state to that in the low-resistance state turned out to be much larger than that of the PCMO films without SRO buffer layers. The origin of resistance change is not clear, but this study shows that PCMO films with SRO buffer layers are candidates for the active material in non-volatile memory devices.