

Low field magnetoresistance of polycrystalline La-Sr-MnO₃ thin films prepared by the post annealing of amorphous films deposited by DC-magnetron sputtering

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Low field magnetoresistance (LFMR) properties of La-Sr-Mn-O thin films deposited on SiO₂-buffered Si (001) substrate by DC magnetron sputtering have been systematically investigated. To fabricate La-Sr-Mn-O crystalline films, amorphous thin films were first deposited at room temperature and then grown into a crystalline phase by the post-annealing at the temperature ranging from 850 to 1000 °C for 2 h in full oxygen atmosphere. Curie temperatures of the annealed films were in the region of 355~375 K, which were dependent upon the processing conditions. The effect of annealing temperature and film thickness on microstructures and LFMR properties of La-Sr-Mn-O thin films will be reported for a discussion.

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