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Magnetoresistance of the Ferromagnetic Combined System

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For the ferromagnetic combined samples, results of x-ray diffraction patterns showed no evidence of reaction between the $La_{0.67}Ca_{0.33}MnO_3$, $La_{0.67}Sr_{0.33}MnO_3$ and $CoFe_2O_4$. For the amount of $CoFe_2O_4$ increased, the Curie temperature of combined samples showed no appreciable change, whereas a metal-semiconductor transition temperature rapidly decreased. For the $La_{0.67}Sr_{0.33}MnO_3$ and 20 wt % $CoFe_2O_4$ combined sample, the metal-semiconductor transition temperature was decreased to 160 K compared with the $La_{0.67}Sr_{0.33}MnO_3$ with 192 K.

Key words : Mössbauer spectroscopy, Magnetoresistance, Combined sample, Grain boundary