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Substitution Effect of Magnetization Behaviors in Manganese Perovskites  
 $\text{La}_{0.7-x}\text{Y}_x\text{Pb}_{0.3}\text{MnO}_3$  ( $0.0 < x < 0.2$ )

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Abstract

The magnetization behaviors of  $\text{La}_{0.7-x}\text{Y}_x\text{Pb}_{0.3}\text{MnO}_3$  ( $0.0 \leq x \leq 0.2$ ) have been examined. The replacement of La ions by Y results in a considerable decrease in the ferromagnetic ordering temperature  $T_C$  and irreversible behavior in the zero-field cooling and field cooling curves at a low applied field. The saturation magnetization  $M_S$  decreases as Y content increases. The results can be explained by the suppression of ferromagnetism due to structure tuning induced by the substitution of Y into the La site.