Phenomenological Equations for the Magnetic Properties of
La0.7−xNdxPb0.3MnO3 Compounds

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Abstract
Polycrystalline single phase oxides, La0.7-xNdxPb0.3)MnO3 (0.3≤x≤0.7), have
been synthesized by a standard ceramic fabrication method. A phenomenological
model is proposed to describe the magnetization process, and to fit the experiment
data of hysteresis loops under different composition ratio. The magnetic hysteresis
behavior can be modeled by the formula of . The resulted model can satisfy the
experiment data ranging from 0.005T to 5T. Explanations on the fitting coefficients
of these compounds are addressed.

Key words：Magnetization; Hysteresis loop