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MÖSSBAUER STUDIES FOR La-Co SUBSTITUTED STRONTIUM FERRITE

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La-Co substituted Sr-ferrite $((\text{La-Co})_x\text{Sr}_{1-x}\text{Fe}_{12-x}\text{O}_{19})$ ($x = 0.0 \sim 0.4$) powders synthesized by sol-gel process were investigated magnetic properties. The crystalline structures were characterized by x-ray diffractometer (XRD), and magnetic properties were measured by vibrating sample magnetometer (VSM) and Mössbauer spectrometer. The crystalline structure of $(\text{La-Co})_x\text{Sr}_{1-x}\text{Fe}_{12-x}\text{O}_{19}$ ($x = 0.0 \sim 0.4$) was single M-type hexagonal phase. Magnetization under an applied maximum field of 15 kOe was measured 63.9 emu/g for $x = 0.0$, and decreased gradually with increasing x . Coercivity, H_C was measured 6,256 Oe for $x = 0.0$, and then increased up to 7,462 Oe of maximum value for $x = 0.2$, and decreased over $x = 0.2$. We studied magnetization and coercivity with La-Co substituted strontium ferrite by Mössbauer spectroscopy. As substituted La-Co ions on the iron site, Mössbauer spectra were shown that the relative intensities of $4f_2$, $12k$ sites were obviously decreased.

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Oral Poster Invited Talk

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