

# Accepted Manuscript

Exchange spring magnetic behavior of  $\text{Sr}_{0.3}\text{Ba}_{0.4}\text{Pb}_{0.3}\text{Fe}_{12}\text{O}_{19}/(\text{CuFe}_2\text{O}_4)_x$  nanocomposites fabricated by a one-pot citrate sol-gel combustion method

M.A. Almessiere, Y. Slimani, A. Baykal



PII: S0925-8388(18)31951-0

DOI: [10.1016/j.jallcom.2018.05.232](https://doi.org/10.1016/j.jallcom.2018.05.232)

Reference: JALCOM 46208

To appear in: *Journal of Alloys and Compounds*

Received Date: 2 February 2018

Revised Date: 15 May 2018

Accepted Date: 20 May 2018

Please cite this article as: M.A. Almessiere, Y. Slimani, A. Baykal, Exchange spring magnetic behavior of  $\text{Sr}_{0.3}\text{Ba}_{0.4}\text{Pb}_{0.3}\text{Fe}_{12}\text{O}_{19}/(\text{CuFe}_2\text{O}_4)_x$  nanocomposites fabricated by a one-pot citrate sol-gel combustion method, *Journal of Alloys and Compounds* (2018), doi: 10.1016/j.jallcom.2018.05.232.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# Exchange spring magnetic behavior of $\text{Sr}_{0.3}\text{Ba}_{0.4}\text{Pb}_{0.3}\text{Fe}_{12}\text{O}_{19}/(\text{CuFe}_2\text{O}_4)_x$ nanocomposites fabricated by a one-pot citrate sol-gel combustion method

M.A. Almessiere<sup>a,c,1</sup>, Y. Slimani<sup>b</sup>, A. Baykal<sup>c</sup>

<sup>a</sup>Department of Physics, College of Science, Imam Abdulrahman Bin Faisal University, P.O. Box 1982, 31441 Dammam, Saudi Arabia

<sup>b</sup>Department of Biophysics, Institute for Research & Medical Consultations (IRMC), Imam Abdulrahman Bin Faisal University, P.O. Box 1982, 31441 Dammam, Saudi Arabia

<sup>c</sup>Department of Nano-Medicine Research, Institute for Research & Medical Consultations (IRMC), Imam Abdulrahman Bin Faisal University, P.O. Box 1982, 31441 Dammam, Saudi Arabia

## Abstract

In this study, **hard/soft**  $\text{Sr}_{0.3}\text{Ba}_{0.4}\text{Pb}_{0.3}\text{Fe}_{12}\text{O}_{19}/(\text{CuFe}_2\text{O}_4)_x$  nanocomposites with various contents of the soft phase ( $x = 1, 2, 3, 4$ , and  $5$ ) have been synthesized via a one-pot citrate sol-gel route. The structure and magnetic properties of the prepared specimens were investigated using X-ray diffraction (XRD), **scanning and transmission electron microscopies (SEM and TEM)** techniques as well as a vibrating sample magnetometer. The obtained XRD patterns revealed the formation of hard/soft ferrite nano-composites without secondary phases. **The magnetic results showed that all the prepared nanocomposite magnets exhibit a good single-phase magnetic behavior, proving that the magnetic hard**

---

<sup>1</sup>Corresponding author. E-mail: malmessiere@iau.edu.sa (Munirah Abdullah Almessiere). Tel: 00966505807292

Download English Version:

<https://daneshyari.com/en/article/7991036>

Download Persian Version:

<https://daneshyari.com/article/7991036>

[Daneshyari.com](https://daneshyari.com)