

Structural and magnetic properties of chemically deposited hexaferrites

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Abstract

We have prepared M-type lead hexaferrites ($\text{PbFe}_{12}\text{O}_{19}$) using alternative and inexpensive sol-gel methods. Lead and iron precursors were dissolved in butoxyethanol and stabilised with acetylacetone to produce a sol with good wetting and surface coating characteristics. Powder samples were investigated in order to optimise conditions for the growth of thin films. The «spin on» technique was used to provide nominally homogeneous films. X-ray diffraction and AGFM have been performed to assess sample structure and surface morphology as a function of heat treatment.