

研究論文

エチレングリコール溶媒によるゾル-ゲルコバルト酸
ランタン微粒子の合成と相の定量化

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Synthesis and Evaluation of Phases for Sol-gel Lanthanum Cobaltite Powders via Ethylene Glycol Solvent

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Nanostructured lanthanum cobaltite powders were fabricated by a sol-gel method. Both lanthanum and cobalt nitrate salts were dissolved into water and ethylene glycol solvents, respectively. For both solvents, the XRD profiles of powders seemed to be observed as an amorphous or nano-sized single phase. However, unexpected phases were found by measurements of the mass and the density, and the ratios of the unexpected phases to the purity one determined the density of the particles.

Keywords : lanthanum cobaltite, sol-gel route, ethylene glycol solvent, magnetic material, Williamson Hall analysis, inductively coupled plasma – atomic emission spectrometry (ICP-AES), pycnometer method, magnetization curve