Synthesis and sintering of $La_{0.8}Sr_{0.2}Mn0_3$ by rapid microwave heating

D. Grossin ; S. Marinel and J. G. Noudem

CRISMAT/ENSICAEN-CNRS/UMR 6508, 6 Bd Maréchal Juin, 14050 CAEN Cedex, France

Abstract : We report in this paper the synthesis, the sintering and the properties of $La_{0.8}Sr_{0.2}Mn0_3$ (LSMO) compound. The starting raw material was prepared by solid state reaction. Synthesis and sintering was carried out using both a conventional furnace and a microwave device. The LSMO phase has been successfully synthesized in a microwave cavity in a very short time of few minutes. Scanning electron microscopy (SEM), X-ray diffraction (XRD), magnetic and electrical properties were carried out for both processing conditions. The results and advantages of microwave heating to process manganite oxides are discussed.