

# Synthesis and sintering of $\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_3$ by rapid microwave heating

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**Abstract :** We report in this paper the synthesis, the sintering and the properties of  $\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_3$  (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.