

**STRUCTURE AND SUPERCONDUCTING PROPERTIES OF Fe-  
DOPED OF POROUS BSCCO 2223 SUPERCONDUCTOR**

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## ABSTRACT

### STRUCTURE AND SUPERCONDUCTING PROPERTIES OF FE-DOPED IN POROUS BSCCO 2223 SUPERCONDUCTOR

Since the discovery of High-Temperature Superconductor (HTS) such as BSCCO and YBCO, researchers have been carried out many attempts to improve the superconducting properties. The effect of doping with different ionic radii and different bonding characters element enhanced the electrical properties. In this study, Fe doping in porous BSCCO 2223 was prepared to study the effect of doping in a porous superconductor. The superconducting properties,  $T_c$  and  $J_c$  were failed to improve due to the higher concentration of Fe. The solid state method was used to prepare the sample. The sample intensively undergone several characterization techniques to obtain the lattice parameter and electrical properties. The critical temperature,  $T_c$  was determined by measuring the resistivity using four-point probe technique. Analysis of lattice parameter was observed by using X-ray diffraction (XRD) in relation to electrical properties of superconductor.

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