

Fabrication of Fine BSCCO-2223 Precursor Powder by Spray Pyrolysis Process

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Many researches on fabrication process for BSCCO precursor powders have been developed for high Jc BSCCO-2223 tape. Spray pyrolysis method for fabrication of precursor powder has many advantages, such as high purity, fine particle size and low carbon content of BSCCO precursor powder. Fine, spherical powders were prepared by ultrasonic spray pyrolysis from the aqueous solution of metal nitrates. BSCCO precursor powders were synthesized with various solutes concentration and heat treatment conditions. Average particle size for spray pyrolysis powders was 1.5~3 μ m. Bi-2223/Ag tape was prepared by PIT method and followed by various sintering conditions. BSCCO precursor powders were characterized by XRD, SEM, EDS, ICP and particle size analysis.

keywords : Precursor powder, purity, particle size, spray pyrolysis