# Characterizations of Fine Bi-2223 Precursor Powder by Spray Pyrolysis Process

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Homogeneous and fine powders for Bi-2223 tape were prepared by ultrasonic spray pyrolysis (SP) method from an aqueous solution of metal nitrates. Bi-2223 precursor powders were synthesized with various solutes concentration and pyrolysis temperature. The synthesized precursor powders had a narrow particle size distribution and an average particle size was ~ 2 $\mu$m. The reactivity of precursor powder by SP method is very high, attributed to the fine and narrow particle size distribution. Bi-2223/Ag tape was prepared using PIT method and followed by various sintering conditions. The precursor powder by SP method promoted a very quick formation of the Bi-2223 phase for short sintering time while the secondary phase such as large AEC phase and $Ca_2PbO_4$ were minimized for SP tapes.

keywords : Fine precursor powder, particle size, spray pyrolysis, secondary phase