Introducing Hydrostatic Extrusion Process for Long-length Processing of Bi-2223 Superconducting Tape

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There are many problems in wire fabrication of long length Bi-2223 superconductor by using conventional extrusion method. They are mainly due to high surface resistance and inhomogeneous distribution of inner stress. Hydrostatic extrusion process will not only decreases the extrusion pressure but also enhances homogeneous deformation of material by reducing friction force between billet and container. Hydrostatic extrusion method is considered to be useful for fabrication of the homogeneous wire with high density. In this paper, hydrostatic extrusion process is introduced to fabricate Bi-2223 superconducting tape, and also discussed are the interface homogeneity and microstructural aspects of extruded BSCCO/Ag billet.

Keywords : Bi-2223, hydrostatic extrusion