

## Present Status of Coated Conductors and Characteristics of Major Fabrication Techniques

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In this presentation, first, I will briefly explain present status of R&D in coated conductors, and then discuss characteristics of major fabrication techniques of coated conductors. Long-lengthening and critical current enhancement of coated conductors have been two major issues for real applications. During last around ten years, a tremendous effort has been made by advanced countries, including USA, Japan and EU, to realize industrial applications of coated conductors. Fortunately, our country also started R&D on coated conductors through 21C Frontier Program three years ago, and thus some research facilities could be installed. Although the research facilities are still inferior to advanced countries, very promising results have been obtained already. To fabricate coated conductors, various techniques related to textured template, buffer layer, and superconducting layer. Currently, both RABiTS and IBAD techniques are being applied for textured templates. For superconducting layers, although various methods are in use, long coated conductors (>10 m) with high critical currents (> 100 A/cm at 77 K) were reported only by several techniques such as PLD, MOD and MOCVD. Advantages and drawbacks of each method will be discussed.

keywords : coated conductor, texture, critical current