Fabrications of Superconductive Films on Ni Tapes with Buffer Layers for Long Coated Conductors.

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We'll show the comparisons of the film qualities, the windows of fabrication conditions, and reproducibility's of the YBCO and SmBCO layers on Ni tapes with buffer layers for various deposition methods; co-evaporation, sputtering, BaF_2-post annealing. The window of fabrication condition of YBCO films by means of sputtering is much wider than those of co-evaporation and BaF_2-post annealing. However its speed is much slower than those of the other ones. The experimental results and the problems of the depositions of YBCO and SmBCO films for coated conductors of several meter length will be discussed.

keywords : coated conductor, YBCO, SmBCO, co-evaporation, sputtering, BaF_2-postannealing