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## **Wed-Mo-Po3.08-12 [62]: Study on the current limiting characteristics of YBCO coated conductor according to different stabilizer layer with iron core and coil**

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The yttrium-barium-copper-oxide (YBCO) coated conductor, which supplement the fault of the existing superconducting current-limit materials YBCO thin film, bismuth-strontium-calcium-copper-oxide(BSCCO) wire and bulk, has been improved its mechanical weakness and has high index; hence, after quench YBCO coated conductor could limit the fault current effectively because of fast resistance occurrence speed. Furthermore, it has wide applicable area as an current limit material because it shows different resistance occurrence tendency by the thickness and kind of stabilization material sputtered on the superconducting layer. Therefore, many researchers are carrying out the study of application of YBCO coated conductor to superconducting fault current limiter (SFCL) for making high quality current limit element, based on resistance type. On the other hand, the study for other type except resistance type has been rarely conducted for the application of YBCO coated conductor to SFCL as an current limit element. Consequently, in this study, YBCO coated conductor with different stabilization layer Cu and Stainless steel, is applied to SFCL using iron core and coil, and examine the many index points as an current limit element, such as current limit characteristic, the tendency of resistance occurrence, response time, the temperature trend for stability.

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