

## Stability Characteristics of YBCO Coated Conductor Stabilizer

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As high temperature superconductor applications became a reality due to increase in coated conductor performance, it is important to understand their stability behavior to design safe systems. We have experimentally studied the dependence of quench and recovery characteristics of coated conductors on the amplitude of current and duration time. The samples used in the present study has Ni-W alloy substrate,  $Y_2O_3/YSZ/CeO_2$  as a buffer layer, YBCO layer by PLD and Ag cap layer with stabilizer. Stability tests of 5 cm long sample were performed in a liquid nitrogen bath cooling condition by applying a short period over current pulses of 0.1 – 0.5 seconds, with amplitude up to ~ 4-5 times of the critical current of the weakest zone. The transport current that follows before and after the current pulse was fixed as 90-95% the critical current of the weakest zone. The voltage and temperature traces corresponding to applied current were measured by voltage taps and thermo-couples attached to the sample tape.

keywords : stabilizer, quench, recovery, current pulse.