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Robust REBCO coated conductor with meatal stitching stabilizer

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REBCO coated conductor has architecture of metal substrate/ buffer layers / REBCO layer/ metal over-layers. Multilayer thin films are deposited on metal substrate by various deposition or coating technique. From this structures, films delamination and interfacial failure in coil applications are caused by thermal mismatch strains and potentially high Lorentz forces. We have proposed advanced structures of REBCO coated conductor for improving the mechanical properties and electrical stabilities using the micro-holes and fill technique. Micro-holes were made by laser drilling on the surface of the REBCO coated conductor and filled with conducting metal such as Ag, Cu and Solder to act as metal channel for connecting with both side of metal over-layers. And also it play a role as electrical and thermal channel for quench energy dispersion. So we were named "Metal Stitching Stabilizer". In this presentation, a detailed introduction to the robust coated conductor with metal stitching stabilizer and experimental results to investigate its feasibility are discussed.

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