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## **M2Po3E-05: Measurement of Transverse Resistance for Stacks of Non-insulated REBCO Tapes**

*Tuesday 20 May 2025 14:00 (2 hours)*

Transverse resistance among adjacent conductors is necessary information to calculate AC losses in stacks of non-insulated conductors. An existing transverse pressure insert (TPI) was modified at Fermilab to measure at nitrogen temperature transverse resistance of stacks made of non-insulated REBCO tapes as a function of transverse pressure. Pressure up to 300+ MPa was applied with a hydraulic cylinder. A small current was flown in the stack sample through REBCO tape segments spliced above and below the stack. The latter had a bending radius larger than 6 cm to prevent damage. The voltage was measured just outside the compressed area. Stack samples included stacks of bare REBCO tapes, of REBCO tapes alternated with stainless steel ribbons of various thicknesses, and of impregnated and soldered stacks. We herein present results of these transverse resistance measurements. Results show a stronger dependence on pressure for smaller pressure vs. larger ones. Also, of the two components of transverse resistance, i.e. contact and bulk, the latter was negligible.

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