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# Wed-Mo-Po3.10-04 [78]: Post-mortem mechanical investigation of ITER TF conductor samples after heat treatment and SULTAN testing

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The electrical performance of cable-in-conduit conductors made from Nb3Sn superconductor can degrade during operation, depending on the operating parameters selected and the cable pattern and geometry. In this study, we perform a comparative destructive examination on two identical ITER TF conductor sections, one of which is heat-treated but untested, and the second of which has been tested to the full IxB Lorentz force envisioned for ITER operation. We compare the level of macroscopic mechanical damage, microscopic filament breakage, and the distribution of strand positions within the conductor cross-sections to understand the origins of the performance degradation. Combined with future examination of reduced IxB samples, we expect this method to help elucidate some mechanisms of the performance degradation.

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