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Mon-Af-Or5-02: Status of Performance Testing of the Mu2e Transport Solenoid Coils

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The magnet system of the Muon to electron (Mu2e) experiment at Fermilab consists of three solenoid magnets: the Production Solenoid (PS), the Transport Solenoid (TS), and the Detector Solenoid (DS). The S-shaped TS contains 52 coils grouped into modules, which are typically 2 coils shrink fitted into Al shells. These modules are further grouped into units made of 1-3 modules. As part of the acceptance process for these units, the magnetic center of all coils and critical dimensions of the Al shells are measured. The magnetic model is updated with these as-built values to ensure the magnetic requirements for the experiment are met. In addition, units are tested to 120% of nominal current at liquid helium temperatures to study quench performance and splice resistance. Results from the first units will be presented.

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