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## **Thu-Mo-Po4.04-07 [30]: Induced currents and AC losses models for a butt-joint with rutherford shunts**

*Thursday, 26 September 2019 08:45 (2 hours)*

The ITER Central Solenoid (CS) has terminal butt-type joints called Coaxial joints. It was decided to study a design of this joint with rutherford shunts, and to build models for its resistive and inductive behaviors. In particular, the behavior of the joint under magnetic field transients is investigated with various analytical models that are compared with a FEM model. The key point of the study was to verify that the induced currents were reasonable and would not induce flux jumps in the rutherfords. A prototype with simplified geometry was tested in the CEA Josefa facility under various field ramps. The results are presented and discussed.

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