

Resistive Wall Mode physics and control challenges in JT-60SA high β_N scenarios



The no-wall and ideal-wall β_N limits have been evaluated for a Scenario 5-like plasma, with different ideal wall positioning, for the most unstable n=1 ideal kink

The target plasma falls into the RWM region. Stability of the fluid RWM has been evaluated at different β_N values and at varying toroidal rotation.

A self-consistent drift-kinetic model has been applied to evaluate the effect of thermal ion precessional drift on mode stability, a global stabilizing contribution has been observed on the target plasma.

A full dynamic simulator has been developed and tested for RWM active control with realistic 3D description of conductors.

Ongoing work includes evaluating the effect of rotation on the kinetic RWM and improving the dynamic simulator for multimodal control.

