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Resistive Wall Mode Simulations With JOREK-STARWALL RACHEL MCADAMS, York Plasma Institute, University of York, IAN CHAPMAN, Euratom/CCFE Fusion Association, Culham Science Centre, HOWARD WILSON, York Plasma Institute, University of York, MATTHIAS HOELZL, Max-Planck-Institute for Plasmaphysics, EURATOM Association, Boltzmannstr. 2, 85748 Garching, Germany, GUIDO HUYSMANS, ITER Organisation, France, YUE-QIANG LIU, Euratom/CCFE Fusion Association, Culham Science Centre, PETER MERKEL, Max-Planck-Institute for Plasmaphysics, Germany — Resistive Wall Modes (RWMs) are one of the main limitations to operation at high plasma pressure and weak magnetic shear, as is required in so-called Advanced Tokamak scenarios. These scenarios may be a route to a viable fusion power station. The implementation of a coupled JOREK-STARWALL code, wherein STARWALL calculates the magnetic field in the vacuum region surrounded by a resistive wall, is used. The wall incorporates realistic geometry, with three dimensional effects. A typical cylindrical equilibrium, unstable to RWMs, is used to compare simulated growth rates from JOREK-STARWALL to linear, analytic growth rate predictions in order to illustrate and benchmark the influence of the resistive wall. Furthermore, the stability of ITER advanced scenarios to RWMs is explored with ITER wall geometry.

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