

Abstract Submitted
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Influence of a Nonuniform Resistive Wall on the RWM Stability in a Tokamak CALIN V. ATANASIU, MEdC EURATOM Association, Bucharest, Romania, AUGUSTIN MORARU, University Politehnica of Bucharest, Romania, LEONID E. ZAKHAROV, Princeton University, Plasma Physics Laboratory, Princeton, USA — Writing the expression for the potential energy in terms of the perturbation of the flux function, and performing an Euler minimization, one obtains a system of ordinary differential equations in that perturbation. For a toroidal geometry with a separatrix, natural boundary conditions for the perturbed flux function, just at the plasma boundary have been determined by replacing the vanishing boundary conditions at infinity. By adding the wall, in its thin approximation, but with a realistic geometry with access holes, new boundary conditions for the external kink mode, now a resistive wall mode, due to the field produced by the eddy currents in the wall and due to feedback coils have been determined. The present work is devoted to the presentation of a very fast and reliable numerical tool to calculate the influence of the eddy currents on the boundary conditions with the help of a scalar stream function for the induced surface currents.

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