

## **ABSTRACT**

A new approach to study linear resistive magnetohydrodynamics stability is described. The approach is based on the traditional toroidal plasma model where the plasma resistivity and mass effects are essential only in thin layers around resonance surfaces, whereas the outer plasma is ideal and inertia free. This leads to differential equations with singular points. We propose a new technique to solve these equations and show that it has superior numerical convergence and accuracy properties to previous methods. The new numerical technique is generally applicable to other problems in which differential equations with singular points arise.