

2C15

## **OPTIMAL CONTROL OF TOKAMAK RESISTIVE WALL MODES IN PRESENCE OF NOISE**

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### **Abstract**

A scheme of optimal control based on state feedback for the resistive wall modes in tokamaks is described. The important effects of ever present MHD noises which have been neglected in the past, are included in the stochastic formulation of the basic equations. The optimality of the system is obtained both in terms of minimization of the stabilized fluctuation levels of the modes and the control energy. It is found that the stabilized fluctuation level and control signal level are of the order of the noise level of the system in the steady state.