Stabilization of the External Kink and the Resistive Wall Mode

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Abstract.

The pursuit of steady state economic production of thermonuclear fusion energy has led to research on the stabilization of the external kink and the resistive wall mode. Advances in both experiment and theory, together with improvements in diagnostics, heating and feedback methods have led to substantial and steady progress in the understanding and stabilization of these instabilities. Many of the theory and experimental techniques and results that have been developed are useful not only for the stabilization of the resistive wall mode. They can also be used to improve the general performance of fusion confinement devices. The conceptual foundations and experimental results on the stabilization of the external kink and the resistive wall mode are reviewed.

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