Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

**Thermal conductivity effects on resistive g-mode stability of the RFP** JAN SCHEFFEL, AHMED MIRZA, Division of Fusion Plasma Physics, Royal Institute of Technology, Stockholm, Sweden — Tearing modes presently dominate fluctuations in the reversed-field pinch (RFP). Using current profile control techniques, the tearing modes can be removed experimentally. Pressure driven resistive g-modes remain for all equilibria, however, according to classical theory. In the tokamak these modes can be eliminated by curvature effects. Resistive g-modes may cause modest global energy confinement and severly limit the reactor potential of the RFP. Work by Bruno et al, where the energy equation has been supplemented by heat conduction terms, appear to show that heat conduction smoothens pressure gradient effects and stabilises resistive g-modes at low beta. On the other hand, fully numerical studies including heat conduction effects as well as experimental work identify resistive g-mode activity. In this work, we present a detailed computational analysis of linear resistive g-mode stability with and without heat conductivity effects. Both traditional delta prime analysis and a fully resistive code, based on the novel Generalized Weighted Residual Method (GWRM), are used.

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Date submitted: 27 Jul 2011 Electronic form version 1.4