

Abstract Submitted  
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**Linear MHD Stability Analysis of the SSPX Spheromak<sup>1</sup>** R. JAYAKUMAR, B.I. COHEN, E.B. HOOPER, L.L. LODESTRO, H.S. MCLEAN, L.D. PEARLSTEIN, R. WOOD, Lawrence Livermore National Lab, Livermore, CA, A.D. TURNBULL, General Atomics, San Diego, CA, C. SOVINEC, University of Wisconsin, Madison, WI — Good correlation between the toroidal mode numbers of measured magnetic fluctuations in high temperature SSPX plasmas and presence of low-order rational surfaces in the reconstructed  $q$  profiles, suggests that the quality of magnetic surfaces in SSPX is sufficiently good for applying standard linear MHD stability analyses. Previously we have reported on benchmarking the code NIMROD against GATO, with good agreement in growth rates for ideal-MHD internal kinks and an external kinks with no current on open field lines (for equilibria imported from the code Corsica). Recent stability analyses also show that presence of low order rational surfaces causes internal modes to become unstable. We will report on the progress in applying these tools for assessing beta limits in SSPX, using NIMROD analyses including current on open field lines and for comparison with experiments.

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