

Abstract Submitted
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High frequency whistler excitations in spheromaks¹ K.D. STROHMAIER, J.M. URRUTIA, R.L. STENZEL, Physics & Astronomy, UCLA — Using a loop antenna with axial magnetic field opposing the ambient field ($B_0 \sim 7$ G) nonlinear whistler modes are generated which create magnetic null points in the total field. The time scale of such spheromak-like fields is imposed by the oscillating antenna current (< 0.1 MHz $\ll \omega_{ce}$). However, within the propagating whistler spheromaks, high frequency (~ 10 MHz), small-amplitude magnetic oscillations are excited spontaneously above a certain threshold. Their space-time dependence and parameter scaling is measured in order to determine the mechanism for this magnetic instability.

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