

Abstract Submitted
for the DPP06 Meeting of
The American Physical Society

Alfvén wave measurements in HelCat CHRISTOPHER WATTS, University of New Mexico, RALPH KELLY, MARK GILMORE — Alfvén waves, though ubiquitous in space plasmas, are difficult to study in the lab because of their typically long wavelengths. In order to make detailed measurements of their propagation characteristics and mode structure, the HelCat (Helicon-Cathode) device uses a high-density helicon source to generate the background plasma. This reduces the Alfvén wavelength to tractable values in the four meter device. In contrast to previous work on ALESPI with steady-state discharges, we are using pulsed discharges to allow the use of smaller, less robust magnetic probes. Nonetheless, the typically one second quiescent discharge insures that we can follow the evolution of the Alfvén waves in the bounded plasma column, from initial transients through the boundary condition dependent steady state mode structure.

Christopher Watts
University of New Mexico

Date submitted: 17 Jul 2006

Electronic form version 1.4