

Abstract Submitted
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New Apparatus to Launch Ion Acoustic Waves in 10^{12} /cm³ Density Plasmas REBECCA ROYCROFT, University of Texas at Austin, SETH DORFMAN, TROY A. CARTER, SHREEKRISHNA TRIPATHI, University of California Los Angeles — A new apparatus has been designed and constructed to launch ion acoustic waves in the $\sim 10^{12}$ /cm³ density plasma in the small plasma device (SMPD) at UCLA. It consists of a plasma source made of lanthanum hexaboride (LaB6) and a chamber with an anode at the end. Gas will be ionized in this chamber and will diffuse out into the main SMPD chamber. By modulating the anode-cathode voltage on the wave launcher, the density in the wave launcher chamber will be made to oscillate. This plasma will then diffuse out into the main chamber, launching an ion acoustic wave. Design and preliminary results will be presented. Future studies will focus on both linear acoustic mode behavior and nonlinear interactions with Alfvén waves in the large plasma device (LAPD) at UCLA.

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