

Abstract Submitted
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Excitation of Ion Acoustic Waves in Confined Plasmas with Untrapped Electrons¹ HANNA SCHAMIS, University of Michigan, ANSEL DOW, University of North Carolina, JOHAN CARLSSON, IGOR KAGANOVICH, ALEXANDER KHRABROV, Princeton Plasma Physics Laboratory — Various plasma propulsion devices exhibit strong electron emission from the walls either as a result of secondary processes or due to thermionic emission. To understand the electron kinetics in plasmas with strong emission, we have performed simulations using a reduced model with the LSP particle-in-cell code. This model aims to show the instability generated by the electron emission, in the form of ion acoustic waves near the sheath. It also aims to show the instability produced by untrapped electrons that propagate across the plasma, similarly to a beam, and can drive ion acoustic waves in the plasma bulk.

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