

Abstract Submitted
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Radio-frequency Plasma Sheath Studies NATHANIEL HICKS, University of Alaska Anchorage — The response of ion-electron plasma as well as two-component plasma to RF fields is studied via PIC simulation. In each case, the light species responds strongly to the RF and the heavy species does not. By varying the external electrode geometry, RF waveform, and driving voltage and frequency, light species of certain charge-to-mass ratios may experience a trapping effect within the RF structure. The space charge of this species creates a potential well for the oppositely-charged, heavy species. Simulation results are presented, as well as plans for experimental investigation of the same effect. Applications to plasma processes in which a plasma boundary is subjected to external RF fields are discussed.

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