



SEMINAR ANNOUNCEMENT

The electron dynamics and frequency coupling in ICP and RF biased ICP

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Inductively (ICPs) and capacitively coupled plasmas systems (CCPs) are extensively used for several industrial applications such as micro-electronics and solar cell fabrication, during the plasma etching and plasma enhanced chemical vapor deposition (PECVD) processes, respectively. In industry, ICPs are typically used with an RF bias on the substrate. In this work, space and phase resolved optical emission spectroscopy (PROES) has been used to investigate the heating mechanisms in an RF biased ICP when the two driving frequencies are exact multiples of each other; operated in a phase-locked manner. The results showed complex coupling between the two frequencies which changes with the phase between the two frequencies; similar to the novel electrical asymmetry effect (EAE) in dual-frequency capacitively coupled plasmas (2f-CCPs). Recently, reported electrical asymmetry effect is considered very promising for multiple applications; especially the fabrication of thin film solar cells.

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