CAMT Seminar

“Microwave excited linear plasma source: a simple numerical analysis”

Prof. Longwei Chen

Institute of Plasma physics, Chinese Academy of Science, Hefei, China

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(A12 棟 1 階会議室)

Abstract

Large scale plasma sources have been used in many fields such as semiconductor industry, package industry, photovoltaic industry, displays and so on. However, two key factors including uniformity and high density still need to be improved. Recently, a type plasma source, named linear plasma, has attracted much attention. The linear plasma sources generate high-density and uniform plasmas in only one-dimensional direction. By arraying several linear plasma sources in parallel or adopting roll-to-roll processes of substrate, large-area plasma treatments could be achieved. Compared with DC and RF plasmas, the microwave linear plasma which generates and propagates along a dielectric tube has a number of outstanding characteristics, such as high electron density threshold, low electron energies, low plasma potential, and high charged carrier concentrations of ions. Researchers worldwide have concentrated much attention experimentally and theoretically. However , more detailed numerical analyses need to be performed for the purpose of unveiling the inner mechanism of linear microwave plasma propagation and optimizing the next generation plasma sources.

(Host: Satoshi Hamaguchi Ext：7913)