Abstract Submitted
for the GEC16 Meeting of
The American Physical Society

Plasma characteristics in inductively and capacitively coupled hybrid source using single RF power KWAN-YONG KIM, Department of Electrical Engineering Hanyang University, MOO-YOUNG LEE, Department of Nanoscale Semiconductor Engineering Hanyang University, TAE-WOO KIM, JU-HO KIM, CHIN-WOOK CHUNG, Department of Electrical Engineering Hanyang University
— Parallel combined inductively coupled plasma (ICP) and capacitively coupled plasma (CCP) using single RF generator was proposed to linear control of the plasma density with RF power. In the case of ICP, linear control of the plasma density is difficult because there is a density jump up due to E to H transition. Although the plasma density of CCP changes linearly with power, the density is lower than that of ICP due to high ion energy loss at the substrate. In our hybrid source, the single RF power generator was connected to electrode and antenna, and the variable capacitor was installed between the antenna and the power generator to control the current flowing through the antenna and the electrode. By adjusting the current ratio between the antenna and the electrode, linear characteristic of plasma density with RF power is achieved.

Chin-Wook Chung
Department of Electrical Engineering Hanyang University

Date submitted: 10 Jun 2016 Electronic form version 1.4