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Effects of RF-bias power on plasma parameters in a low gas pressure inductively coupled plasma HYO-CHANG LEE, MIN-HYONG LEE, CHIN-WOOK CHUNG, Department of Electrical Engineering, Hanyang University — Remarkable changes of the electron temperature and the plasma density by increasing bias power were observed in low gas pressure inductively coupled plasma (ICP) by the measurement of electron energy distribution function (EEDF). As the bias power increases, the electron temperature increased with accompanying the evolution of the EEDF from bi-Maxwellian to Maxwellian distribution. However, a different trend of the plasma density was observed with a dependence on the ICP powers. When the ICP power was relatively small and therefore the discharge is in E mode, the plasma density increased considerably with the bias power, while slight decrease of the plasma density was observed when the discharge is in H mode. The change of the plasma density can be explained by the balance between total power absorption and power dissipation

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