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**Electron energy probability function measurement in a 2 MHz and 13.56 MHz dual frequency capacitive argon discharge.** BUM-SEOK KIM, KYUNG-HYUN KIM, NAE-IL LEE, CHIN-WOOK CHUNG, Hanyang University — Electron energy probability functions (EEPFs) are measured to obtain plasma parameters in a dual frequency capacitive argon discharge. 2 MHz and 13.56 MHz dual frequency powers are applied simultaneously to a powered electrode. For reliable measurement, a RF choke filter is used to minimize RF perturbations due to the RF harmonics and the intermodulation frequencies. As the 2 MHz power increases, the population of low energy electrons decreases while the population of high energy electrons little changes. Therefore, the plasma density decreases and the electron temperature increases. As the 13.56 MHz power increases, the population of low energy electrons is almost constant while the population of high energy electrons increases. Thus, the plasma density and electron temperature increase. From the measurement, the change in the EEPFs in the dual frequency operation shows independent control of the electron temperature and plasma density.

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