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The effect of electron attachment and detachment on electron energy probability function in an inductive oxygen discharge. JIWON JUNG, MOOYOUNG LEE, CHINWOOK CHUNG, Hanyang University — Electron energy probability functions (EEPFs) were measured with RF powers at various pressures in oxygen inductive discharge. In low pressures (<50 mTorr), EEPFs are in a Maxwellian distribution and the low energy (1˜5 eV) electron temperature decreases with RF power. However, in high pressure of 100 mTorr, EEPFs are in a Druyvesteyn-like distribution and the low energy electron temperature increases with low powers (80˜100 W) and then it decreases. These change in the EEPF can be attributed to negative ion generation and electron detachment from the negative ions. An electronegativity (α) was measured with the two-probe method suggested by *P.Chabert et. al.* It turns out that the changes in the EEPF are strongly correlated to those in the electronegativity and the change in electron generation and loss due to electron attachment and detachment leads to the electron temperature.

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