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Effect of rf bias frequency on plasma parameters in a remote inductively coupled plasma ZHANG AIXIAN, LEE MOO-YOUNG, MOON HO-JUN, CHUNG CHIN-WOOK, Hanyang Univ — The variation of the plasma parameters according to the bias frequency was observed in a remote inductively coupled plasma. A cylindrical Langmuir probe is used to measure the electron energy distribution function (EEDF) and the plasma parameters in this experiment. As the bias power (2 MHz) increases, the plasma density increases linearly and the effective electron temperature decreases inversely at a fixed frequency of main source (13.56 MHz). While applying a bias power having a frequency greater than or similar to the frequency of the main source to the bias electrode results in a trend different from that described previously. The trend of the effective temperature is not significantly affected by the bias power, and the plasma density increases slightly or almost does not change. These changes show that secondary electron emission occurs at the surface of the electrode due to the application of low frequency power.

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