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Plasma diagnostic method by using charged capacitor voltage MOO-YOUNG LEE, Department of Nanoscale Semiconductor Engineering, Hanyang University, KYUNG-HYUN KIM, CHIN-WOOK CHUNG, Department of Electrical Engineering, Hanyang University — New plasma diagnostic method based on measuring charged capacitor voltage is proposed to obtain plasma density and electron temperature. When two square voltages which have different amplitudes are applied to a probe tip, the voltages of a capacitor connected to the probe vary due to current flowing through probe sheath. To obtain relations with plasma parameters and capacitor voltage, equivalent circuit containing nonlinear sheath and capacitor is adopted. The electron temperature and plasma density were obtained from the ratio of voltage variation during the same time based on those relations. The results are well agreement with those obtained from floating harmonic method.

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