Abstract Submitted
for the GEC19 Meeting of
The American Physical Society

Modified floating harmonic method by analyzing the harmonic currents of a DC blocking capacitor in a floating probe JONG-IN SEO, HO-WON LEE, CHIN-WOOK CHUNG, Hanyang University — The floating harmonic method (FHM) is a diagnostic method to obtain plasma parameters by analyzing harmonic currents of driving frequency to a probe[1]. In the FHM, the harmonic currents are measured through a sensing resistor and a DC floating potential is maintained by a DC blocking capacitor. In this paper, the sensing resistor is eliminated by modifying FHM's measurement circuit, and the DC blocking capacitor is used for measuring the harmonic currents. Since there is no voltage drop across the sensing resistor, compensation of sheath voltage is not necessary[1]. In this method, plasma densities and electron temperatures are measured in an argon Inductively coupled plasma and the results are compared with those obtained from electron energy probability functions. In addition, the effect of stray currents and film deposition on the probe are also investigated. 1. M. H. Lee, S. H. Jang and C. W. Chung, Journal of Applied Physics 101 (3) (2007).

Jongin Seo
Hanyang University

Date submitted: 03 Jun 2019 Electronic form version 1.4