

Abstract Submitted
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Real time two-dimensional spatial distribution measurement method of electron temperature and plasma density YOUNG CHEOL KIM, SUNG HO JANG, GUN HO KIM, CHIN WOOK CHUNG, Hanyang University — Real time two-dimensional spatial distribution measurement method of electron temperature and plasma density was developed. It is based on a floating probe method [1] because the floating probe has high time resolution. Two-dimensional array of sensors on a 300 mm diameter wafer-shaped printed circuit board (PCB) and a high speed multiplexer circuit were used for real time distribution measurement. The method was tested at various powers and pressures, spatial distributions of the electron temperature and the plasma density could be obtained. And in the measurement results, asymmetric plasma density distributions caused by pumping port effect could be observed. This method can measure spatial distribution of plasma parameters on the wafer in real time without plasma perturbation, therefore it will be expected to improve the uniformity of processing plasmas such as etching and deposition.

[1] M. H. Lee, S. H. Jang, C. W. Chung, J. Appl. Phys. 101, 033305 (2007).

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