

Abstract Submitted  
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**Development of an embedded two-dimensional probe for diagnostic of the spatial uniformity in plasmas** JINYONG KIM, IK-JIN CHOI, CHIN-WOOK CHUNG, Hanyang University, Seoul, South Korea — The spatial measurement of plasma parameters on the wafer is important in the processing plasmas. We developed the wafer-type probe arrays to measure the electron temperature, the plasma density, and the ion flux to the wafer two-dimensionally. The double Langmuir probe with harmonic method was used for this apparatus. The plasma parameters are determined by comparing amplitudes of the 1st and 3rd harmonic currents. Because all measurement circuits and calculation module are embedded, it can be equipped inside the plasma chambers without external controllers. The experimental results were in good agreement with those measured by conventional two-dimensional probes under various processing conditions. This method will be able to contribute to plasma uniformity monitoring in real-time, by measuring the spatial distribution of the plasma parameters in the plasma process.

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