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Spatial distribution of floating potential at wafer level in inductively coupled plasmas AIXIAN ZHANG, JI-HWAN PARK, JIN-YONG KIM, YU-SIN KIM, CHIN-WOOK CHUNG, Hanyang Universiy — Spatial distribution of floating potential was measured by using a wafer-type probe array. At low gas pressure, the floating potential distribution has a parabolic shape with a maximum value at the center, regardless of discharge condition. However, the floating potential distribution was remarkably changed, as the gas pressure increases in an electronegative plasma. These results are because the gas pressure changes the discharge property from nonlocal to local kinetics. Besides, negative ions can change the floating potential distribution. This study will be helpful to understand charging damage in metal oxide semiconductor manufacturing process.

Aixian Zhang
Hanyang Universiy

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