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Discharge Electrode Impedance Effect on Nonlinear Wave Generation in Dual-Frequency Capacitively Coupled Plasma YOHEI YA-MAZAWA, Tokyo Electron AT LTD. — Resonantly growth of the wave originated from the plasma nonlinearity was observed in a capacitively coupled plasma reactor. We experimentally demonstrated the growth of the harmonics of the bias frequency by tuning a variable capacitor attached to the bottom electrode. We also observed the amplification of the wave having the frequency corresponding to the difference of the source and the bias frequency. A simple nonlinear equivalent circuit model can reproduce the experimental results. The results indicate that the electrode impedance should be taking into account in considering the resonance condition that dominates the amplification of the nonlinear wave.

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