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**Effect of the driving frequency on a VHF capacitively coupled plasma** HIROYUKI TAKAHASHI, TAKASHI YAGISAWA, TOSHIAKI MAKABE, Keio University, KEIO UNIVERSITY TEAM — In the next-generation ULSI process, a capacitively coupled VHF (UHF) plasma will be employed in order to obtain higher plasma density with large size of electrodes ( $\sim$  m). Then the system will be subject to the strong electromagnetic effect, such as a standing wave and a skin effect. The effect of the standing wave causes nonuniformity along the radial direction to the capacitively coupled plasma (CCP), when the size of the electrode is comparable to the wavelength of the VHF(UHF) voltage source on the electrode. In the present study, nonuniformity of the potential distribution is numerically investigated on a large electrode in the VHF-CCP in Ar in the cylindrical coordinate system  $(r, z)$  by using the combination between the transmission line model (TLM) and the relaxation continuum (RCT) model. The influence of potential nonuniformity on the plasma structure will be discussed in detail.

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