

Abstract Submitted
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Higher harmonic frequencies in capacitive discharges¹ PAVEL DVORAK, P. VASINA, V. BURSOVA, R. ZEMLICKA TEAM — The contribution deals with higher harmonic frequencies that are produced in capacitively coupled discharges due to the nonlinearity of sheaths. Higher harmonics are strong especially at low pressure and they can have a significant influence on plasma. Moreover, they are a tool for plasma diagnostics and monitoring. In this work, dependence of amplitudes of higher harmonics on plasma parameters is studied experimentally. Decrease of pressure causes resonant amplification of harmonics probably related to the series plasma-sheath resonance. Similarly, decrease of electron concentration lead to a resonant amplification. Further, effects of RF power and state of the matching unit were compared. Finally, it was shown that harmonics sensitively react on presence of a deposited film which makes them suitable for monitoring purposes.

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