

Abstract Submitted
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Surface processes in capacitive radio frequency discharges driven by tailored voltage waveforms¹ ARANKA DERZSI, West Virginia University, Wigner Research Centre for Physics, JULIAN SCHULZE, West Virginia University, Ruhr University Bochum — The influence of voltage waveform tailoring on the surface processes in multi-frequency Ar discharges with Cu electrodes are discussed, based on PIC/MCC simulations with realistic models for the description of the interaction of plasma particles with the boundary surfaces. We focus on the domain of low-pressures, where at high voltages the plasma particles can reach the electrodes at high energies and can induce significant secondary electron emission, as well as sputtering of the surface material. The variation of the mean energy of heavy-particles (ions and fast neutrals) at the electrodes by adjusting the phase angle of the driving harmonics influences the surface processes involving these particles. As the sputtering yields are functions of the bombarding heavy-particle energies, tuning the control parameter for the particle energies allows control of the flux of sputtered atoms at both electrodes.

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