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Improving plasma density uniformities at VHF/UHF operating frequencies using a scalable, multielectrode, VHF/UHF plasma source[1]
DAVID O'FARRELL, Dublin City University / Phive Plasma Technologies, SHANE LINNANE, CEZAR GAMAN, Dublin City University, BERT ELLINGBOE, Dublin City University / Phive Plasma Technologies — At VHF/UHF operating frequencies significant electrode voltage non-uniformities develop over even modestly sized electrodes leading to plasma density non-uniformities. This has frustrated the use of higher operating frequencies in larger area PECVD processes despite the potential for increased deposition rates and improved film quality. A scalable, multi-electrode, VHF/UHF plasma source is described that enables high frequency large area operation without plasma non-uniformities. Plasma uniformity data is presented over a series of powers, pressures and operating frequencies.

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