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Coatings deposition from liquid HMDSO films via conversion in dielectric barrier discharges SEBASTIAN DAHLE, WOLFGANG MAUS-FRIEDRICHS , Clausthal University of Technology — The application of plasma discharges for the deposition of coatings is well established in the academic as well as the industrial sector. This is especially true for plasma-enhanced chemical vapour deposition of HMDSO. However, employing thick liquid films is an approach barely recognized, so far. We demonstrate the possibility of introducing thick liquid monomer films into plasma discharges in order to form solid coatings. The underlying processes are discussed including gas kinetics, reactions in the gas and liquid phases as well as at the gas-liquid interface. Finally, conclusions are drawn regarding the plasma-based deposition of highly complex coatings in-between plasma-chemistry and classic polymer chemistry via plasma-enhanced chemical solution deposition.

Sebastian Dahle
Clausthal University of Technology

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