Simulation of plasma’s properties and dynamics for coatings applications

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A plasma reactor was designed for PVD (Physical Vapor Deposition) coatings. There are actually two reactors: the plasma one and the one where the coatings take place. These two reactors are connected by a digital valve. This way, plasma properties can be sensed precisely and the closed-loop-control would be better. Plasma would be generated by electric arcs. The reactors and the plasma were simulated using the software Maple with all the equations that describe plasma’s properties and dynamics.