

Nanoparticle formation and thin film deposition in a capacitively coupled discharge operated in aniline/argon mixtures

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Conductive polymers belong certainly to the most promising materials in current research. They have a high potential for a great variety of different applications as for example for super capacitors, antistatic coatings for electronic packaging, electrodes for organic LEDs or for novel types of sensors. Although conductive polymers have a long history, there is still a large need for simple, environmental friendly, scalable deposition techniques that guarantee a good adhesion and an exact control of thickness and surface morphology. This contribution will deal with plasma based polymerisation processes in aniline containing discharges. Aniline (C₆H₇N, prototypical aromatic amine) is a monomer used in industry e.g. for the production of polyurethane precursors, but also for the production of polyaniline which was one of the first conducting polymers used in practice. This contribution will present some results concerning the formation of nanoparticles and the deposition of thin films in a capacitively coupled discharge operated in mixture of argon and aniline.

Acknowledgement

This work has received funding from European Union's Horizon 2020 research and innovation program under grant agreement No. 766894.