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## Investigating the HiPIMS deposition of gold onto polymers

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Gold deposition via high power impuls magnetron sputtering (HiPIMS) allows to coat thin metal layers on heat sensitive materials allowing increased adhesion compared to an evaporated gold layer. In addition, this particular technique allows deposition at a lower deposited thermal energy. However, the low temperature nucleation and growth processes of HiPIMS are not sufficiently known. Therefore, we investigate the morphology and structure of thin gold layers on three polymers, namely Polystyrene (PS), Polyvinylalcohol (PVA) and Polyvinyl-4-pyridin (PV4P). The polymers are spincoated onto silicon to obtain ~ 40 nm polymer thin films as substrates. These polymers are of interest as they show different functional moieties and thus are expected to influence the growth of the gold layer. We present first results of our investigations using atomic force microscopy (AFM), scanning electron microscopy (SEM) and grazing incidence small angle X-ray scattering (GISAXS).

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