



IMMOBILISATION OF GOLD NANOPARTICLES ON A POLYMER SURFACE DURING MOULDING

Jürgen Nagel , Felix Kroschwald, Gert Heinrich

Reactive Processing, IPF Dresden

nagel@ipfdd.de

A gold nanoparticle layer on a substrate was formed by electrostatic deposition from a colloidal solution. This layer was transferred to the surface of a polycarbonate sheet by moulding. The investigations revealed, that the nanoparticles were almost completely transferred. A random distribution over the surface was found, which was almost equivalent to that on the substrate surface. The particles were embedded into the outermost surface layer of polycarbonate and covered by a polycarbonate layer of about 5 nm in thickness. This ensured an effective immobilisation of the particles. Such a layer may be used for applications, where a selective surface activation by irradiation is desired.