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INFLUENCE OF GOLD-SILVER NANOSTRUCTURES ON P3HT/PCBM PROPERTIES AND MORPHOLOGY

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We studied the influence of gold-silver nanoparticles in poly(3-hexylthiophene) / phenyl-C61-butyric acid methyl ester (P3HT:PCBM) blends in order to improve its light absorption capability. We focused on the dispersion of the metallic nanostructures inside the P3HT:PCBM nanocomposite and at the interface with transparent electrodes and with buffer layers. Several critical parameters like the solvent and the concentration, the weight ratio of the components and the drying and annealing parameters were studied. The morphology and the optical properties of thin layer nanocomposites were analyzed by Atomic Force Microscopy and by UV-Visible Spectroscopy.