

PHOTOELECTRIC PROPERTIES OF HETEROSTRUCTURES BASED ON PEPC AND MEH-PPV FILMS DOPED WITH ZINC OCTABUTYLPHTHALOCYANINE

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Abstract. Planar organic heterostructures have been prepared using poly-N-epoxypropylcarbazole films and poly[2-methoxy-5-(2'-ethylhexyloxy)-1,4-phenylenevinylene] by the method of successive deposition adding 2,3,9,10,16,17,23,24-zinc octabutylphthalocyanine. Photoelectric, photodielectric and photovoltaic properties of the heterostructures have been studied. It has been found that the structure photosensitivity in the red part of spectrum is remarkably enhanced by adding the metal complex into the π -conjugate polymer. It has also been established that metal sensitizers are capable of slowing down the photovoltaic rise and decay transients exhibited after the illuminating light is switched on and off, respectively. The likely origin of these effects is suggested, relating to deep traps generated by the metal complex.

Keywords: organic heterostructures, MEH-PPV, metal complexes, photovoltaic effect.

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