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## PHOTOVOLTAIC PROPERTIES OF FILM COMPOSITE BASED ON POLYVINYL BUTYRAL AND HETEROMETALLIC $\text{Cu}^{\text{II}}/\text{Ca}$ COMPLEX

*The novel photosensitive polymeric film composite (PFC) based on non-photoconducting polyvinyl butyral with heterometallic complex  $[\text{Ca}\{\text{Cu}(\text{HL})_2\}(\text{SCN})_2]$  (HL – a condensation product of 3-methoxysalicylaldehyde and monoethanolamine) has been prepared. Its photoelectric properties have been investigated by the dynamic probe (Kelvin probe) method of surface potential measurement. It was shown, that the obtained composite exhibits photovoltaic properties under illumination by light from the complex absorption region. The maximal electric potential value of the PFC free surface under sample illumination by white light-emitting diode irradiation ( $I = 60 \text{ W/m}^2$ ) is nearly 60 mV. In the same conditions the potential of the non-illuminated free surface of PFC becomes positive with respect to illuminated PFC surface. The photodiffusion nature of the observed photovoltaic effect as well as the p-type (hole-type) photoconductivity character of such composites were established. The charge carriers diffusion is caused by the concentration gradient of the mobile charge carriers, which amount is larger in the proximity of the illuminated electrode. The hole-type character of photoconductivity is provided by the more mobile positive charged carriers (holes). The mechanism and features of the photovoltaic effect in the investigated film composite are discussed. The obtained PFC can be used in the development of novel photovoltaic media and registering media for optical information recording.*

*Keywords: polymer film composites, heterometallic complexes, photovoltaic effect, photogeneration, charge carriers trapping.*