

bers of tons in the worldwide
be taken into account. On the
tive drug carriers. Thus, it is
fluence on the NDs stability in

w-molecular weight drugs) on
tivation method are useful [1].
nd Myramistin to describe its
ach other. In the adsorption
ption was studied. The other
not prevent controlling the
ristics of binding humic acids,
to the adsorption/desorption

s can completely change its
n of humic substances on NDs
nd slightly reduce an average
scattering [2]. Adsorption of
significantly depends ζ -potential
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The resistive switching effect in the two-layered structures of partially fluorinated graphene and polyvinyl alcohol

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Today, a wide range of materials are investigated for the memristors. Partially fluorinated graphene (FG) is the most stable compound based on graphene, making it a promising dielectric material for fabricating of memristors. In the ISP SB RAS was developed an original method of obtaining partially fluorinated graphene in an aqueous solution of hydrofluoric acid [2], which was used for the preparation of FG suspension. The films of partially fluorinated graphene were found to observe resistive switching [1]. With aim to increase the difference in switching resistances the composite two-layered films FG / polyvinyl-alcohol (PVA) are investigated.

Two-layer printed films, consisting of a layer of (PVA) and a layer of partially fluorinated graphene, Fig.1a, b. In the process of printing, FG ink dissolve the water-soluble PVA film. It leads to the formation porous composite structure. The current-voltage characteristics of these structures are shown in Fig.1.c, there is a stable resistive switching effect with resistance change up to one order of magnitude. We investigate the switching mechanism by studying the transport of two-layer films and carrier recharging kinetics.

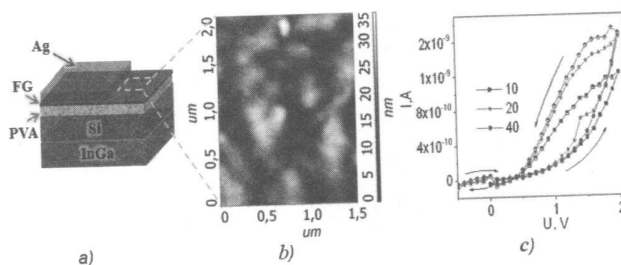


Fig. 1. The two-layer film of fluorinated graphene / polivinil alcohol: a) schematic representation of the structure, b) the image of the fluorinated graphene / polivinil alcohol film surface, obtained using an atomic force microscope, and c) the current-voltage characteristic for the film, the effect of resistive switching up to one order of magnitude. The number of I-V measurements are given in (c) as a parameter.

References

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