MODULATION OF THE OPTICAL TRANSMITTANCE IN THE FULLERENE C_{60}-FEW GRAPHENE SYSTEM BY AN ELECTRICAL SIGNAL

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Carbon based materials have been intensively studied in recent decades. Graphene is a material with a carbon atom based structure arranged in a hexagonal pattern[2].

The modulation of the optical transmittance in multilayer graphene by an electrical signal has been studied.[3] Also the charge transfer in the fullerene C60-few layer graphene system has been, equally, studied.[4] It has been found that there is a modulation of the optical transmittance in few layers graphene by an electrical signal and that in the fullerene C60- few layer graphene system there is an existence of negative photoconductivity.

In this work it is intended to report the experimental observation of the modulation of the optical transmittance in the fullerene C60-few layer graphene system by an electrical signal while there is a negative photoconductivity in the bilayer junction due to the ilumination. It was also found that this bilayer junction serves as a modulated light detector. Observations were made in the mHz range.

Few layer graphene films will be obtained by chemical vapor deposition (CVD) and then C60 wil be thermally evaporated on these films.

Keywords: graphene, C_{60}-few layer graphene system, CVD

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