

Preparation of graphene using aromatic hydrocarbons and investigation of its structural features

Baitimbetova B.A.¹, Ryabikin Yu.A.², Duametuly B.¹

¹*K.I.Satpaev National Technical University, Republic of Kazakhstan, Almaty*

²*Physical and Technical Institute, Republic of Kazakhstan, Almaty*

Graphene has a number of interesting properties can consider it as a potentially promising material for nanoelectronics, optoelectronics, hydrogen energy and other applications [1-2]. The interaction of plasma particles with a solid surface is widely used in various fields of science. Plasma technology provides thin nanofilms from different materials, to modify the physical properties of the surface to create quantum nanostructures [3-4].

The magnetron sputtering of graphite is one method of producing nanocarbon structures in the form of carbon nanotubes. We have chosen this method on basis for obtaining graphene structure, not only by selection substrate, but also appropriate conditions of the magnetron discharge using aromatic hydrocarbons.

The article shows the procedure for the preparation of graphene and carbon nanotubes included in the carbon films formed reactive magnetron sputtering of graphite in an atmosphere of sublime vapor aromatic hydrocarbons [5].

The resulting film structures were investigated by atomic force microscopy and found a tape of graphene and carbon nanotubes. The investigation of EPR has shown that the carbon film on the glass substrate was found a fairly intense lines for the graphene. The evidence from this study suggests that there is a contribution of the EPR line of nanotube.

References

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