

EPR SIGNAL OF CARBON FILMS ON SOME SUBSTRATES

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Recently, researchers have shown an increased interest in the development of technologies for applying thin carbon films on various materials [1-4]. To obtain such films, various types of substrates are selected, for example, such as: quartz, glass, crystalline and monocrystalline silicon, etc. Depending on the synthesis temperature, localized carbon can be represented both in the amorphous state and in the nanocrystalline state.

This study has identified the dependences of the intensities of the EPR signal, the g- factor and the line width on the temperature of carbon films on various substrates with perpendicular and parallel arrangement of the sample plane relative to the orientation of the magnetic field are presented.

The research has also shown that with increasing temperature, the normalized intensity of the EPR signal line increases when carbon is deposited on various substrates (quartz, mica and silicon) by the method of plasma decomposition of a mixture of CH₄ and H₂

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