**ELECTRICAL CONDUCTIVITY FEATURES OF METAL-CARBON NANOCOMPOSITES**

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Carbon nanostructures have a unique anisotropic structure that determines their electronic properties. The electrical conductivity of individual particles of carbon nanostructures and the conductivity of a composite or material containing such structures differ.

For mass application of the thermoemission type of direct energy conversion in alternative sources it is necessary, with maintaining the parameters of electron emission from the cathodes of the thermoemission converter, to significantly reduce its operating temperature, which can be achieved by reducing the output.

The formation of metal- and carbon-containing composites opens the prospect of combining the advantages of both these types of materials, as well as the emergence of new characteristics in the created composites, which are not inherent in the original systems. Such features open up prospects for the creation of "cold" cathodes for thermophoto-emission energy converters based on composites of metal-carbon nanostructures.

The electromechanical properties of metal - carbon nanostructures were studied.

There is an increase in the maximum value of electrical conductivity up to 2 times compared to the original components, due to increasing contact area between the constituent particles of the composite, which increases the electrical conductivity due to increased free electrons in the carbon component during their transition from metal particles and deformation reduction.