

## **Electromechanical properties of carbon-based nanocomposites for pressure and temperature nanosensors**

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The model of nanocomposite materials based on carbon nanocluster suspension (CNTs and GNRs) in dielectric polymer environments (e.g., epoxy resins) is considered as a disordered system of fragments of nanocarbon inclusions with different morphology (chirality and geometry) in relation to a high electrical conductivity in a continuous dielectric medium. Presumably, the electrical conductivity of nanocomposite materials will depend on the concentration of nanocarbon inclusions (in fact, carbon macromolecules). Isolated nanocarbon inclusions will provide conductivity due to the hopping conductivity mechanism through dangling bonds up to the percolation threshold, when at high concentrations (some mass %) a sustainable ballistic regime appears, which is characteristic of pure carbon systems. These nanocomposite materials should be considered combined nano- and mesoscale objects [1-3]. A natural application of this kind of nanocomposite materials is nanosensors of pressure and temperature.

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### References

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