DND electrical Nanostructures Are an Example of Nanoparticle Proliferation in an Active Environment

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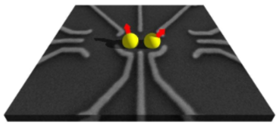
- **Abstract:**

- The DND nanostructure is an example of the proliferation of active wires. There is no problem in producing it like polymers. Its properties must only be examined to understand how it changes.

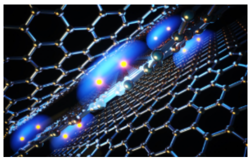
- **Keywords:** Nanostructures ,Nanoelectronic , Electrospinning , Nano Particle

Introduction •

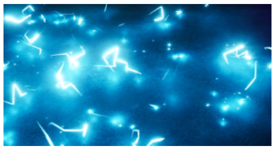
DND is an example of an active wire. The DND structure is well known and is automatically generated in nanowire propagation. In order to use DND to calculate current versus voltage, a distance of 8 nm is assumed between two platinum electrodes, so by applying a voltage the current can be calculated. The point to be taken from the reaction is that the current versus voltage graph is an asymmetric graph, meaning that current is not allowed to pass for a voltage, say, between 1 and 2 volts, while for 2 and 1 current can pass, meaning that DND can perform rectification.



There are three theories about the conduction through DNA, one is that DND is a semiconductor with a very large gap. The other is that DND is a semiconductor with a small gap and also that DND has metallic properties. The main point is that DND is a very complex material whose properties can be greatly affected by environmental conditions. One of these effective environmental conditions is the presence of water. DNDs that are in a dry environment are very different from DNDs that are in a humid environment. Therefore, considering the local conditions prevailing on DND, a definitive conclusion cannot be made about whether DND is a metal or a semi-metal, but what is certain is that DND is a semiconductor with a large gap. In the normal state, there are ions that can be manipulated to change the conductive properties of DND, meaning that it can be hoped that by adding ions it can even be converted into a metal. Another interesting point is that DND can be used as a template and a series of metals can be placed on DND in specific places to create a metal wire around DND. In this case, DND is used as a template to keep the desired wire stable.



It is also possible to examine the stability of DND according to the local conditions prevailing in the system. DND conduction occurs in two specific directions. When DND is considered as a current conductor, it can pass current in a direction parallel to its axis and it can also pass current perpendicular to its axis. Now, for conduction in the direction perpendicular to the axis, it can be assumed that when the STM tip of the carbon nanotube molecule is placed above the DND, the current enters the STM tip perpendicularly from the base pairs that are present. This can be used both as an experiment to see the DND image and to measure the flow of base pair current, and in this way, the AT and CG conductances (base pairs that are present in the DND helix) can be calculated. DND can be a tool in the production of nanoelectronic products with many applications, considering that DND is naturally present in nature and in the cells of living organisms, it can be used in the production of other nanotechnology products such as nanomotors. The control and stability of DND is also possible due to its intrinsic and local properties and is worthy of consideration and discussion.



Conclusion: DND nanostructure is an example of active wire propagation.

1- What is certain is that molecular electronics has a bright future and is growing and evolving at a very rapid rate. Hence, it requires special attention.

2- The practical results of the growth and development of nanotechnology branches such as nanoelectronics will lead to the creation of equipment that will be vastly different from the past and will be a completely new generation with unique capabilities.

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