Review of: "Graphene in nMOS field-effect transistors is an excellent electrical conductor, and also has outstanding spintronic properties."

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> *In a nMOS graphene field effect transistor, the resistance between two electrodes can be transferred or controlled by a third electrode. In a multilayer graphene field effect nMOS transistor, the current between the two electrodes is controlled by the electric field from the third electrode. Unlike the bipolar transistor, it is capacitively connected to the third electrode and is not in contact with the semiconductor.*

Three electrodes in the structure of the nMOS graphene field effect transistor are connected to the source, drain and gate, and this action increases the switching speed (doping) in the nMOS graphene transistor circuit.

An increase in the surface-to- volume ratio and changes in geometry and electronic structure have a strong impact on the chemical interactions of matter, and for example, the activity of small particles changes with changes in the number of atoms (and thus the size of the particles). Unlike today's nano-transistors, which behave based on the movement of a mass of electrons in matter, new devices follow the phenomena of quantum mechanics at the nano scale, in which the discrete nature of electrons cannot be ignored. By reducing all the horizontal and vertical dimensions of the transistor, the electric charge density increases in different areas of the nano-transistor , or in other words, the number of electric charges per unit area of the nano-transistor increases.

> *Graphene in nMOS field-effect transistors is an excellent electrical conductor, and also has outstanding spintronic properties. The ultra-thin carbon lattice is capable of transporting electrons with coordinated spin over longer distances and spinning for longer periods of time than any other known material at room temperature.*

Although the distance is still on the scale of a few micrometers and the time is still measured in nanoseconds, it

essentially opens up the possibility of using rotation in microelectronic components.

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References

1. ^Afshin Rashid. (2023). *Review of: "High speed (doping) nMOS graphene transistor in p- and n-doping electronic circuits (positive and negative)". Qeios. doi:10.32388/jreu5m.*
2. ^Criystian Orlando. (2023). *Review of: "graphene transistor in p- and n-doping electronic circuits".Qeios. doi:10.32388/wsobnd.*
3. ^Afshin Rashid. (2023). *Review of: "(Field effect nano transistors) Nano transistor electronic quantity and ionization potential)". Qeios. doi:10.32388/464lg7.*
4. ^Salem Abukhalil. (2023). *Review of: "The nano transistor is one of the most important nano electrical parts that has functions such as circuit amplification". Qeios. doi:10.32388/hkyzig.*
5. ^Anita Gupta. (2023). *Review of: "Amplification of Nano Wires Nano Wire by Electron Nano Lithography".Qeios. doi:10.32388/l3md1n.*
6. ^Linda Brouce. (2023). *Review of: "(Field effect nano transistors) Nano transistor electronic quantity".Qeios. doi:10.32388/12sgvj.*
7. ^Salem Abukhalil. (2023). *Review of: "Horizontally layered nanolattices appear as the consensus for the 5nm transistor". Qeios. doi:10.32388/tgo96r.*
8. ^Afshin Rashid. (2023). *Review of: "Oligophenylene vanillin (silicon/germanium) structured nanowires and cylinders for possible applications in electronic energy". Qeios. doi:10.32388/i5wrmf.*
9. ^Carlos Sanchez. (2023). *Review of: "Oligophenylene vanillin (silicon/germanium) structure". Qeios. doi:10.32388/59igyk.*
10. ^Afshin Rashid. (2023). *Review of: "Propagation of Oligophenylene vanillin nanowires by focused ion beam (FIB) nanolithography method (below ۱۰۰ nm - ۱۰ nm range)". Qeios. doi:10.32388/whhfa8.*
11. ^Afshin Rashid. (2023). *Review of: "Nano wire immersion method (structure and function)".Qeios. doi:10.32388/0od0gl.*
12. ^Andrea County. (2023). *Review of: "The concept of (Nano assembler)".Qeios. doi:10.32388/xrrt0e.*
13. ^Afshin Rashid. (2023). *Review of: "The concept of (Nano assembler) in smart electronic nano structures".Qeios. doi:10.32388/atyte1.*
14. ^Alex Atkinson. (2023). *Review of: "The link between Nano Assembler and Nano Transistors".Qeios. doi:10.32388/pbda2e.*