Review of: "Field Effect Nano Transistors (Nano Teransistor Mosfet) Circuit diagram of a multilayer Si graphene field effect nanotransistor"

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Potential competing interests: No potential competing interests to declare.

Note: In the circuit diagram of a multilayer Si graphene field effect nanotransistor, the source and drain electrodes are directly connected to the semiconductor, while the gate electrode is capacitively connected to the semiconductor using the gate dielectric. The electric field created by the gate electrode controls the current created by the source and drain electrodes. Drain current transport is modulated by changing the density of charge carriers in the two-dimensional transport channel. In the multi-layer Si graphene field effect nano transistor, a 3D channel of drain current is modulated with the thickness of the 3D channel.

Many chemical and physical methods have been proposed to produce different types of multilayered nanographene. The basis of the work of physical methods is that in these methods, they try to eliminate the forces between the graphene sheets in graphite and by separating them, they reach single layers of graphene or graphene oxide, which is the same top -down method. Is. In chemical methods, multi-layered nanographene is made by placing individual carbon atoms together, which is also called the bottom-up method. Graphene, which consists of only one carbon atom, can be used to create multilayer graphene field effect nanotransistors that consume less energy and occupy little space.

Graphene is a semi-conducting material with zero gap and not suitable for logic circuits, but by using nano technology, they create different forms of this material that have different gaps. Graphene nanoribbons, multilayer graphene and graphene grown on Si are such forms. The term "nano-transistor" comes from the combination of the word "nano-scale" in transmission and resistance. In a Si graphene field effect nano transistor, the resistance between two electrodes can be transferred or controlled by a third electrode. In a Si multilayer graphene field effect nano 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 are connected to the source, drain and gate in the Si multi-layer graphene field effect nano transistor structure.

Conclusion :

In the circuit diagram of a multilayer Si graphene field effect nanotransistor, the source and drain electrodes are directly connected to the semiconductor, while the gate electrode is capacitively connected to the semiconductor using a gate dielectric.

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