Graphene on Diamond (GOD)

Dr. James C. Sung has a PhD, degree from MIT

Abstract

Graphene is the stretched diamond (111) plane, graphene can be formed martensitic alloy without breaking the
Carbon bonds, on diamond surface by specialty heat treatment in vacuum. In this case, Graphene on Diamond (GOD)
Hetero-epitaxy is similar to homo-epitaxy so the signal transmission is continuous. GOD is an ideal computational
Device as graphene contains the most effective transmission lattice, capable of terahertz communication by Mach 100
Speed of phonon (lattice vibration). On the other hand, diamond is considered to be the most stable quantum computing
Solid due to its highest Debye temperature. During the quantum computing, the Q-bits must be entangled without
Atomic vibration, and diamond's super hard lattice is capable to maintain this stability for milliseconds, even at room
Temperature.
Diamond contains about 1% C13 isotope atoms in the lattice. These atoms may be ion planted and heat treated to
Cluster as Q-bits. The superposition of spins from the extra neutron in the nuclei would be the best mechanism for Quantum computing. With about 50 Q-bits entangled in milliseconds while these Q-bits are stationary, the vast Computational possibilities can tackle even more difficult problems that for all human transistors combined. With GOD, the quantum computing can be initiated with graphene on cubical face (100) of diamond; and the Collapsed quantum waves may exit from octahedral face (111). Thus, GOD would be the dream AI chip that Outperforms even the smartest combinations of all current computers interconnected together.

Image

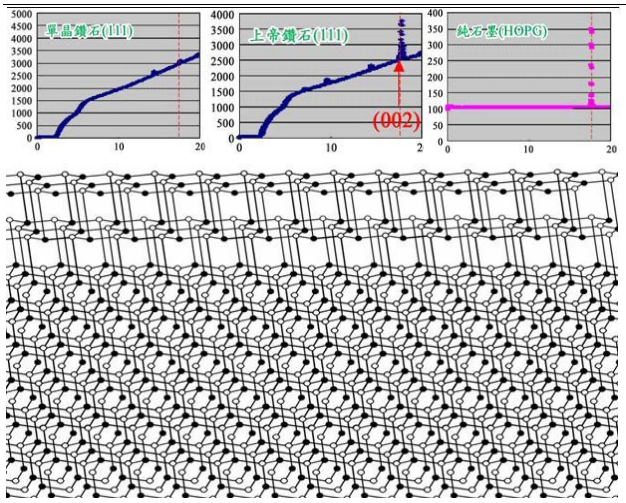
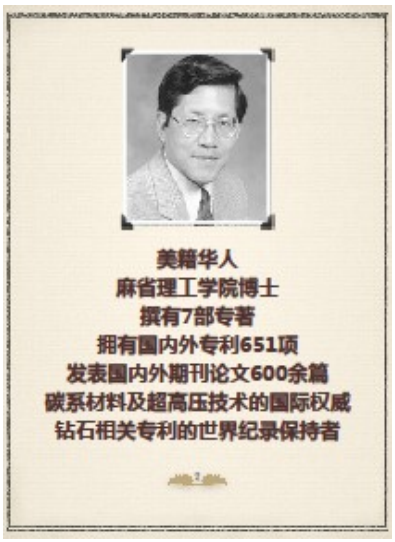


Figure 2: Insert caption to place caption below figure (Century Gothic 109

Reference

1. James C. Sung, et al., Diamond Nanotechnology: Syntheses and Applications, Stanford Publishing, 2010.



Biography

Dr. James C. Sung (MIT)

He was responsible for diamond production technology at GE Super Abrasives, for diamond tools development at Norton. He set the diamond grid specifications for diamond disks used worldwide for CMP of IC wafers, and helped IPO of Kink Company in Taiwan. Dr. Sung co-founded Graphene Synthetic with Huang-He worldwide, the world' largest diamond maker located in Henan China. He is now Chairman of Applied Diamond Inc., selling the most advanced CMP diamond disks-V the manufacture of next generation interconnects.

Email: jamessungad@gmail.com

Notes/Comments: