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Meta Material that Acts as a Permanent Energy Source

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Abstract:- Currently, the world Confront a highly massive disaster called climate change that is caused by the usage of fossil fuel as an energy source this disaster can threaten the stability of the world economy further it will destroy the world, spread harmful diseases, as well as current clean energy resources, are so expensive and not highly effective such as solar energy that its efficiency is decreased by dust and clouds.

So, I create the modeling of metamaterial that acts like a battery that doesn't require any external energy such as solar energy or wind energy, where it can be a permanent energy source to save the world from this highly massive disaster and present definitive solutions for climate change and energy crisis in the world.

This metamaterial generates a new form of energy called molecular strain energy, where molecular strain energy result from electron-electron repulsion that represents the greatest energy in the universe , the amount of electron-electron repulsion depend on electron density as the electron density is greater as the electron-electron repulsion is greater hence greater energy will generate , the highest electron density orbital on atom is 1S orbital due to the nearest to the nucleus and has the smallest size , to get the highest energy (highest electron-electron repulsion) it must be the distance among each two electrons equal diameter of electron and must be all electron of atom occupy 1S orbital only , where 1S orbital can accept infinity number of electrons due to 1S orbital is spherical orbital that can contain all symmetry elements and it is divided into infinity number of sub-orbitals has positive phase but this event can't happen in the nature , so it is necessary to create new metamaterial do this event and this metamaterial is called molecular strain energy-generating metamaterial, this metamaterial act as molecular strain energy-generating metamaterial when it is exposed to so tiny ferromagnet The metamaterial must be at nanoscale and the distance between ferromagnet and metamaterial must be at the nanoscale or less to ferromagnet can motivate metamaterial to produce molecular strain energy.

Keywords:- *Molecular strain energy, Photonics, plasmonic, graphyne, Metamaterials.*

I. INTRODUCTION

This method generate new form of energy that called molecular strain energy , where molecular strain energy result from electron-electron repulsion that represents the greatest energy in the universe , the amount of electron-electron repulsion depend on electron density as the electron density is greater as the electron-electron repulsion is greater hence greater energy will generate , the highest electron density orbital on atom is 1S orbital due to the nearest to the nucleus and has the smallest size , to get the highest energy (highest electron-electron repulsion) it must be the distance among each two electrons equal diameter of electron and must be all electron of atom occupy 1S orbital only , where 1S orbital can accept infinity number of electrons due to 1S orbital is spherical orbital that can contain all symmetry elements and it is divided into infinity number of sub-orbitals has positive phase but this event can't happen in the nature , so it is necessary to create new metamaterial do this event and this metamaterial is called molecular strain energy- generating metamaterial and show in figure 1 , but this metamaterial need special conditions to act as molecular strain energy-generating metamaterial (Matta, Boyd et al. 2007)

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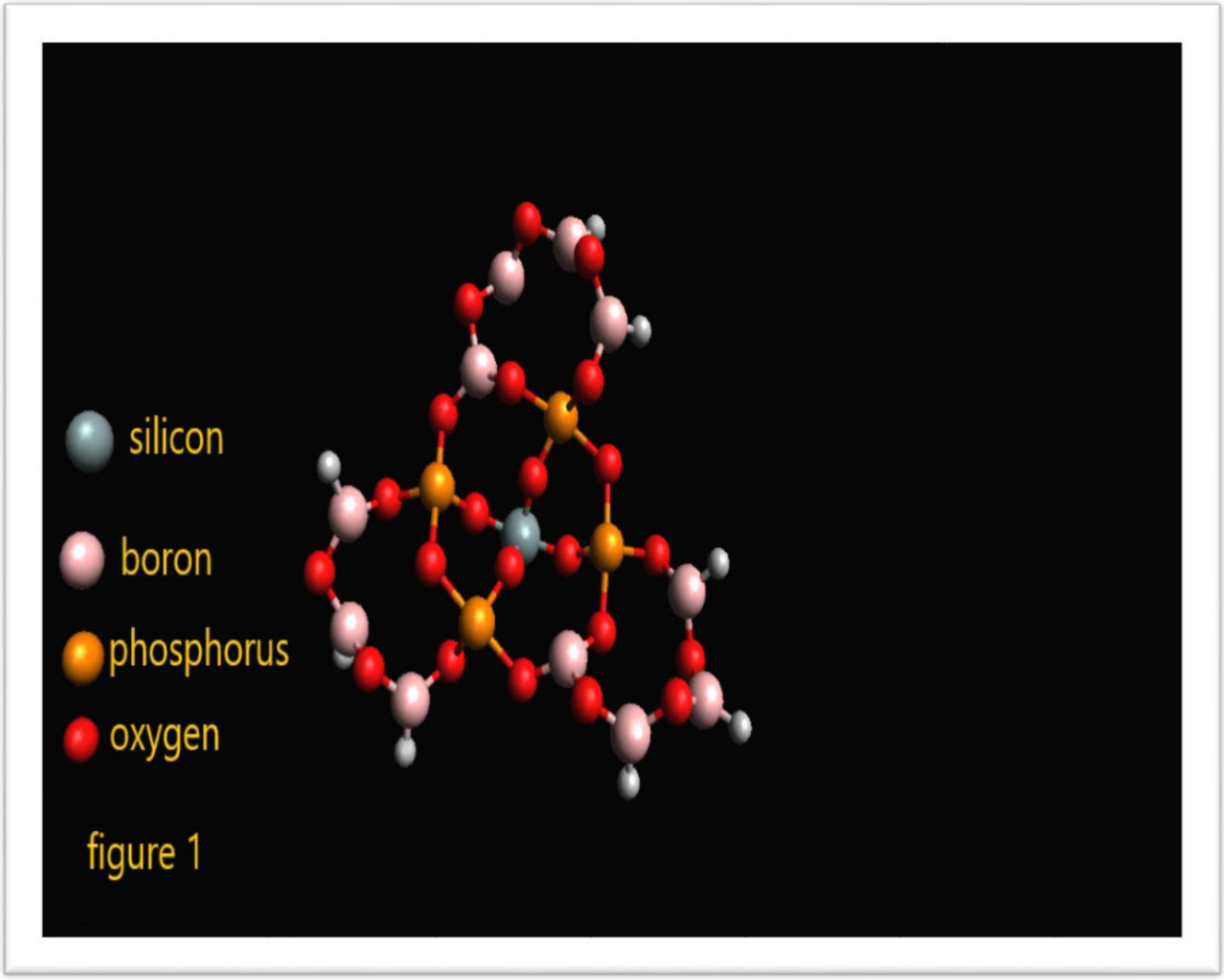

Fig. 1: (Molecular strain energy- generating metamaterial)

The required condition to metamaterial produces energy

- The metamaterial must be at nanoscale
- It is necessary to presence of ferromagnet like $sm_2Fe_{17}N_3$ or nickel iron alloy or iron-doped graphyne
- This ferromagnet must be at nanoscale
- the distance between ferromagnet and metamaterial must be at nanoscale or less to ferromagnet can motivate metamaterial to produce molecular strain energy
- presence of hydrogenated graphene or alkanes (Hosmane 2019)
- the distance between hydrogenated graphene and metamaterial must be at nanoscale or less when the metamaterial act as molecular strain energy-generating metamaterial , it will release free electron , plasmons and thermal phonons due to ultra–high electron-electron repulsion , then thermal phonon motivate magnetic properties of plasmonic graphyne(graphyne show in figure 2) hence plasmonic graphyne produce magnetic cone , when the free electron strike this magnetic cone will lose its energy in form of photon , the magnetic cone also enhance coupling between plasmon and photon and result in polariton . (Bao, Hoh et al. 2017)

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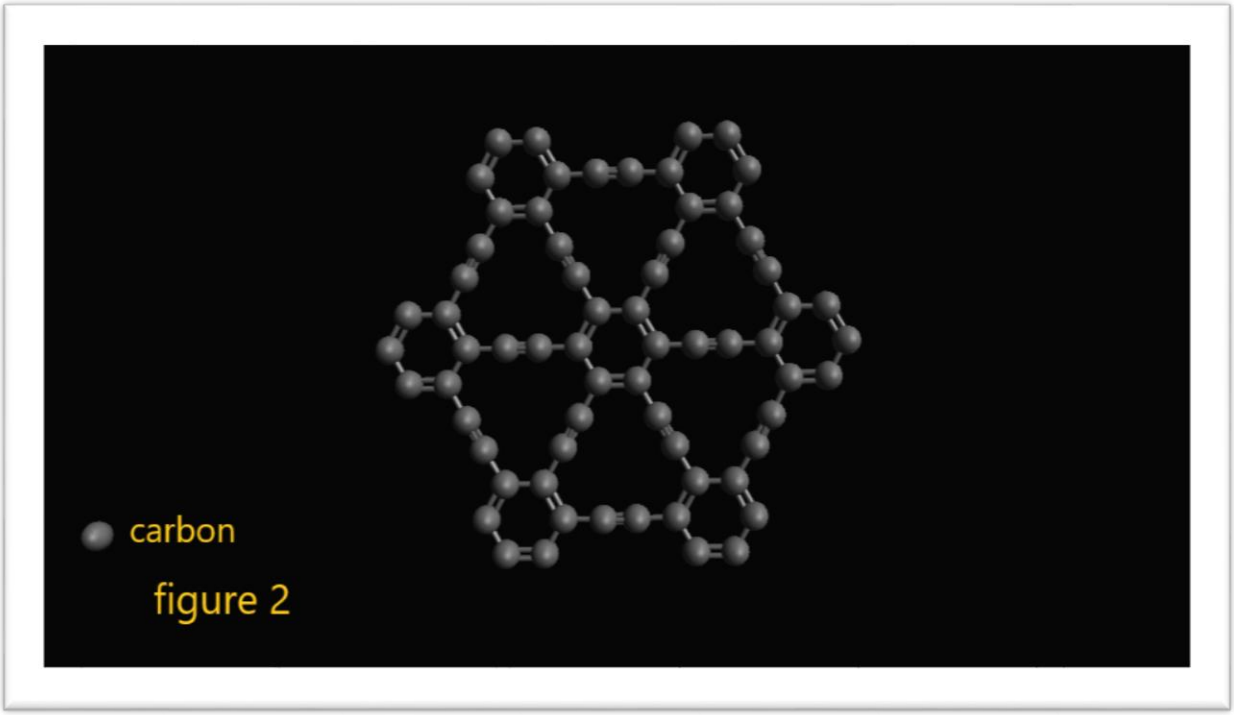

Fig. 2: (Graphyne)

The polariton has magnetic moment so it is affected by magnetic field of graphyne, the graphyne is focusing polaritons to strike borocarbon nanotube (borocarbon show in figure 3) from boron side to convert them to harmonic waves that can move the motor or processor depend on degree polymerization of boron side.

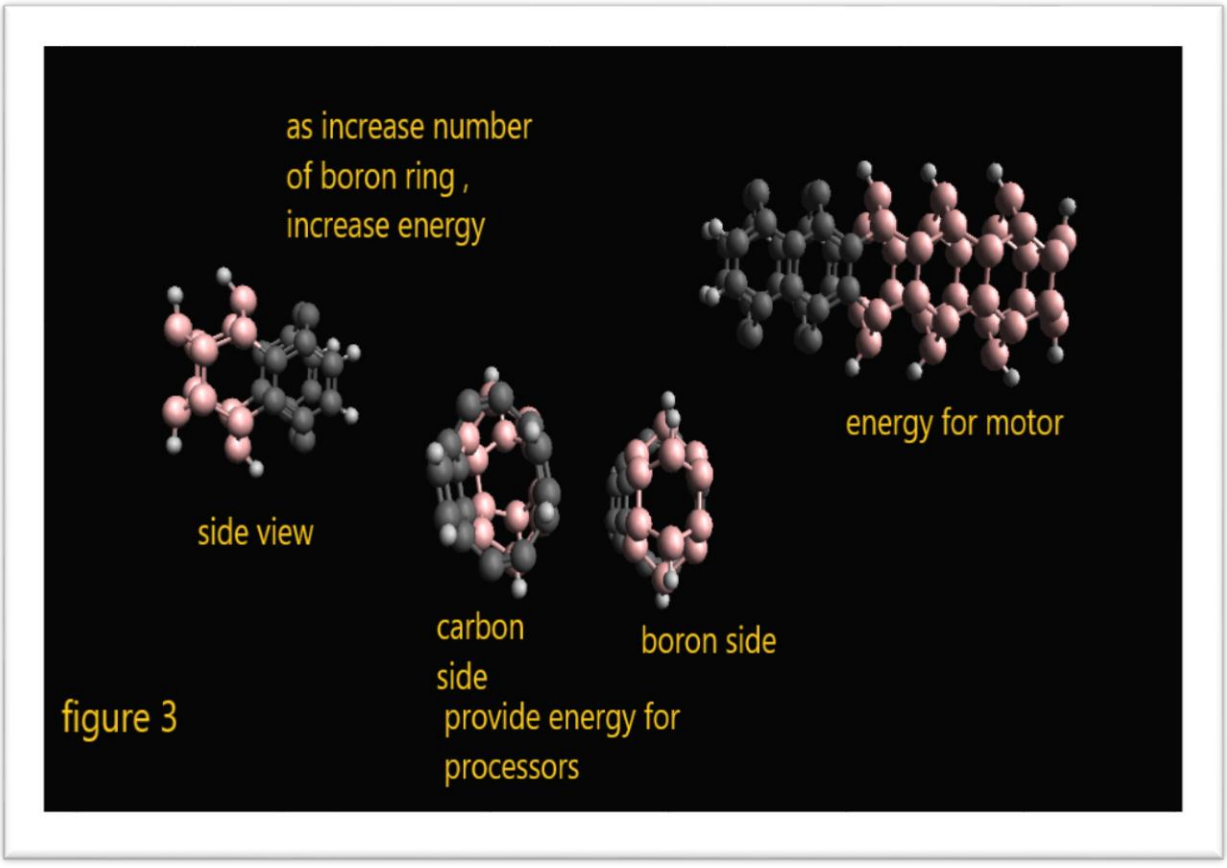

Fig. 3: (Borocarbon nanotube)

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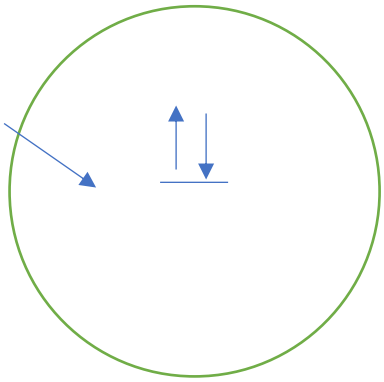
II. JUSTIFICATIONS

Now justify why this metamaterial will produce molecular strain energy under influence of ferromagnet at nanoscale

- The highly small distance between metamaterial and ferromagnet make the magnetic dipole moment of ferromagnet has ultra-huge effect on metamaterial at atomic scale
- Metamaterials contain phosphorus and boron that their nuclei are paramagnetic due to odd number of protons.
  - this two previous reasons make magnetic effect is huge enough to condense the charges of one proton of each nucleus of boron or phosphorus and creation of 2 quasi nucleus around silicon atom (as show in figure 4) to enhance attraction of silicon's nucleus so silicon atom will be ultra-high electron deficient center enough to collect all its electron on its 1S orbital and will attract two hydride ion from hydrogenated graphene through the Agostic interaction and also collect electron of hydride ion in 1S orbital so 1S orbital will contain 18 electron and distance between each two electron equal diameter of electron = 2.8×10^{-15} meter .(der 2010)
  - some factors Affect quasi nucleus and its charateristics :
    - ✓ two quasi nucleus form around silicon's nucleus only
    - ✓ each quasi nucleus has charge = half of sum numbers of phosphorus and boron in this metamaterial = 7.5
    - ✓ quasi nucleus is collection of tiny charged plasmons and its size equal size of proton so it has ultra-high charge density and attract extremely electrons
    - ✓ as increase degree of polymerization of oxygen-boron ring as increase charge density of quasi nucleus and also number of electrons in 1S orbital hence increase energy.
- then justify how more than of two electrons and also have same sum quantum states.
- according to Pauli principle: The total (space and spin) wavefunction must be antisymmetric under the interchange of any pair of identical fermions and symmetrical under the interchange of any pair of identical bosons, this meaning that it is impossible presence two electrons has sum quantum states (spin, orbital phase , principle quantum number , orbital quantum number) for example sum quantum states of one electron = L=0 + s=0.5 + n=1 +phase= 1 = 2.5 and sum quantum states of another electron =0-0.5+1+1=1.5 ,$\Psi_1 = -\Psi_2$

this is two electrons in antisymmetric wavefunction 1S orbital (normal case)



But in this metamaterial is special case where there is ultra-high local electric field attraction that can collect many electrons in 1S orbital inside symmetrical wavefunction and all electron has the same sum quantum number states ($\Psi_1 = \Psi_2$) due to creation of quasi boson has spin=1 and can occupy symmetrical wavefunction, quasi boson can interchange another quasi boson with same quantum state, 1S orbital is the only orbital that can accommodate bosons and quasi bosons due to it is highest symmetry orbital (only positive phase) hence 1S orbital is divided into infinity symmetrical sub-orbitals, each sub-orbital contains one quasi boson.

- Definition of quasi boson : two electron coupling has same spin as one quasiparticle transition state under influence of ultra-high local electric field attraction , so many electron can occupy 1S orbital in this case .(Atkins and Friedman 2011)

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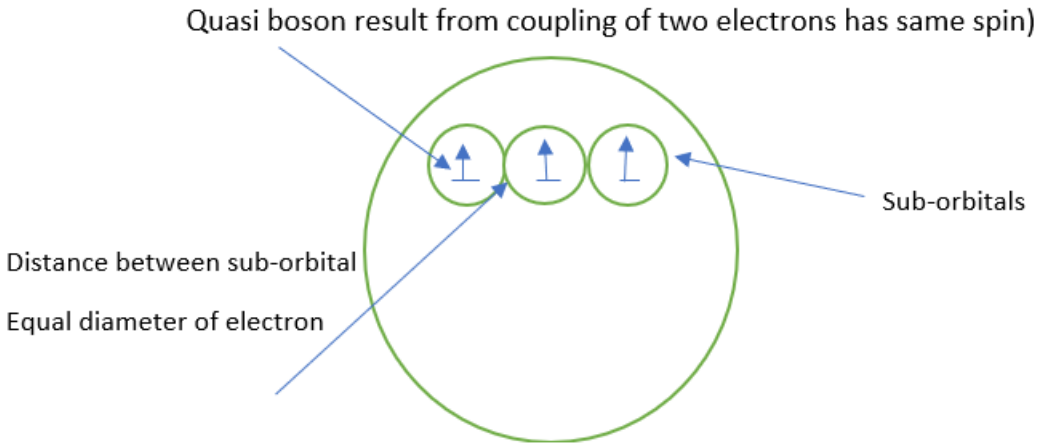

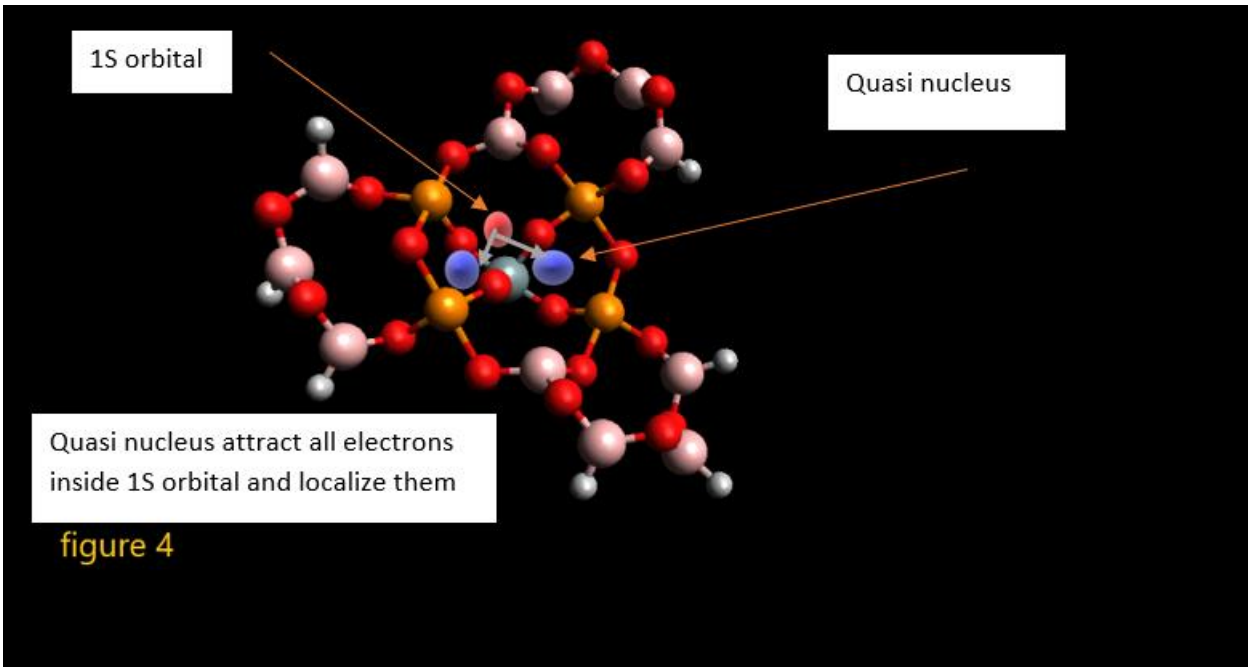

Fig. 4: (Molecular strain energy- generating metamaterial when it produces quasi nucleus)

In order to know approximate energy will use term electron-electron repulsion Schrödinger equation (E = $\frac{e^2}{4\pi\varepsilon_o r}$)

The each two electron repulsion is called forced molecular strained electron constant = $\frac{e^2}{4\pi\varepsilon_o r}$ =

$\frac{(1.6\times10^{-19})^2}{4\times3.14\times8.85\times10^{-12}\times2.8\times10^{-15}} = 8.225\times10^{-14}$ Jolue ,

then each electron release from silicon's atom has 8.225×10^{-14} jolue . (der 2010) , (Atkins and Friedman 2011)

- Now justify why graphyne is plasmonic material
- DFT calculation show graphyne is more electron density than graphene, has larger band gap and under higher temperature electrons behave as massless fermions
- Plasmons increase as electron density increase , electron mobility so graphyne is better plasmonic than graphene(Bhushan 2012)
- And also under higher temperature electron moving conical movement and form magnetic cone when electrons of silicon's atom strike magnetic cone, the electron return to silicon's atom (as show in figure 5).

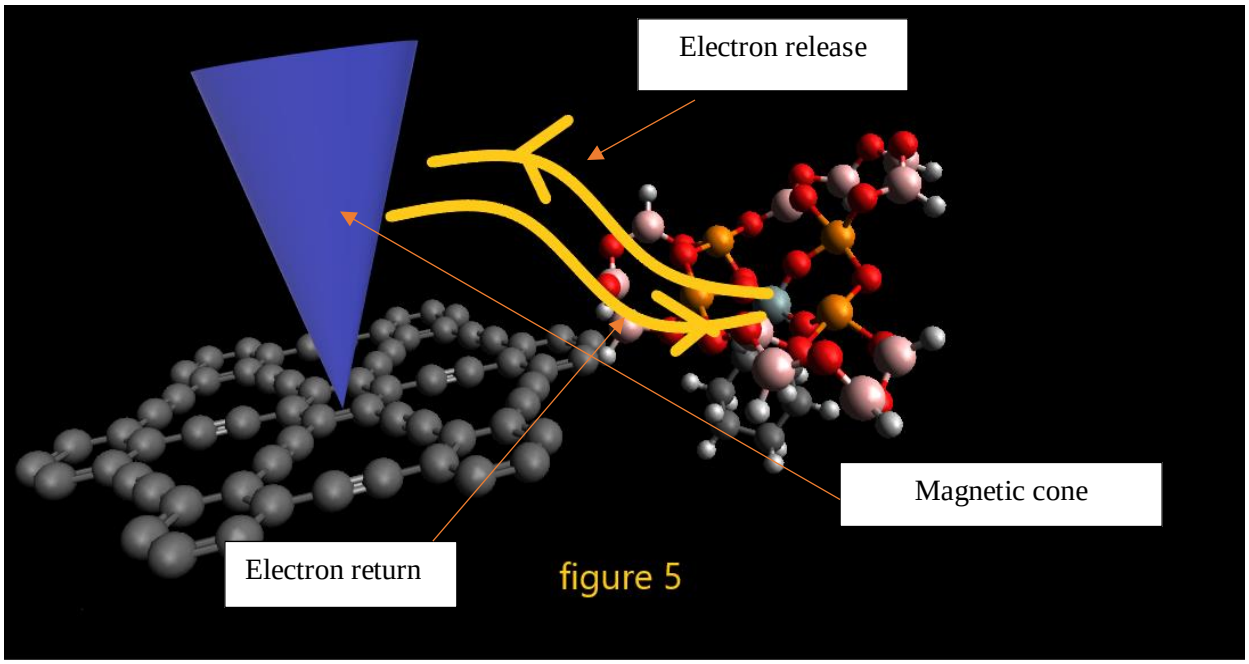

Fig. 5: (Electrons release from metamaterial and electrons return to metamaterial when they strike magnetic cone)

in this case silicon's atom consider hydrogen-like atom

Then Returnee Electrons undergo the Rydberg equation

$\nu = R\times \left[\frac{Z^2}{n_f^2} - \frac{Z^2}{n_i^2}\right]$, R is Rydberg constant = $3.29 \times 10^{15} Hz$

When electron return to n = 1 , $n_f = 1$

$\nu_\infty = 3.29 \times 10^{15} Hz \times \left[\frac{196}{1} - \frac{196}{\infty}\right] = 6.448 \times 10^{17} Hz$

$\nu_6 = 3.29 \times 10^{15} \times \left[\frac{196}{1} - \frac{196}{36}\right] = 6.2693 \times 10^{17}$

$\nu_7 = 3.29 \times 10^{15} \times \left[\frac{196}{1} - \frac{196}{49}\right] = 6.3168 \times 10^{17} Hz$

Repeat these steps in all atomic levels of silicon.

(Burrows, Holman et al. 2021)

- Now justify why borocarbon nanotube convert photon to harmonic waves
  - I design new carbon nanotube is called acetylenic carbon nanotube that is more stable than normal nanotube due to it conserve the aromaticity and has potential energy lower than normal nanotube (as show in figure 6 and figure 7) = 1686.31 kJ/mol while potential energy of normal nanotube = 2257.01 KJ/mol
  - Borocarbon nanotube under magnetic effect of graphyne will produce dense quasi nucleus cloud that is trapping light and prevent it from passing
  - The borocarbon nanotube accommodate part of photonic wave = width of boron rings , hence this part of photonic wave collide with quasi nucleus cloud and produce harmonic momentum = photonic number coefficient $\times \frac{h}{\lambda}$,

Photonic number coefficient = $\frac{width\ of\ boron\ rings}{wave\ length\ of\ incident\ light}$.

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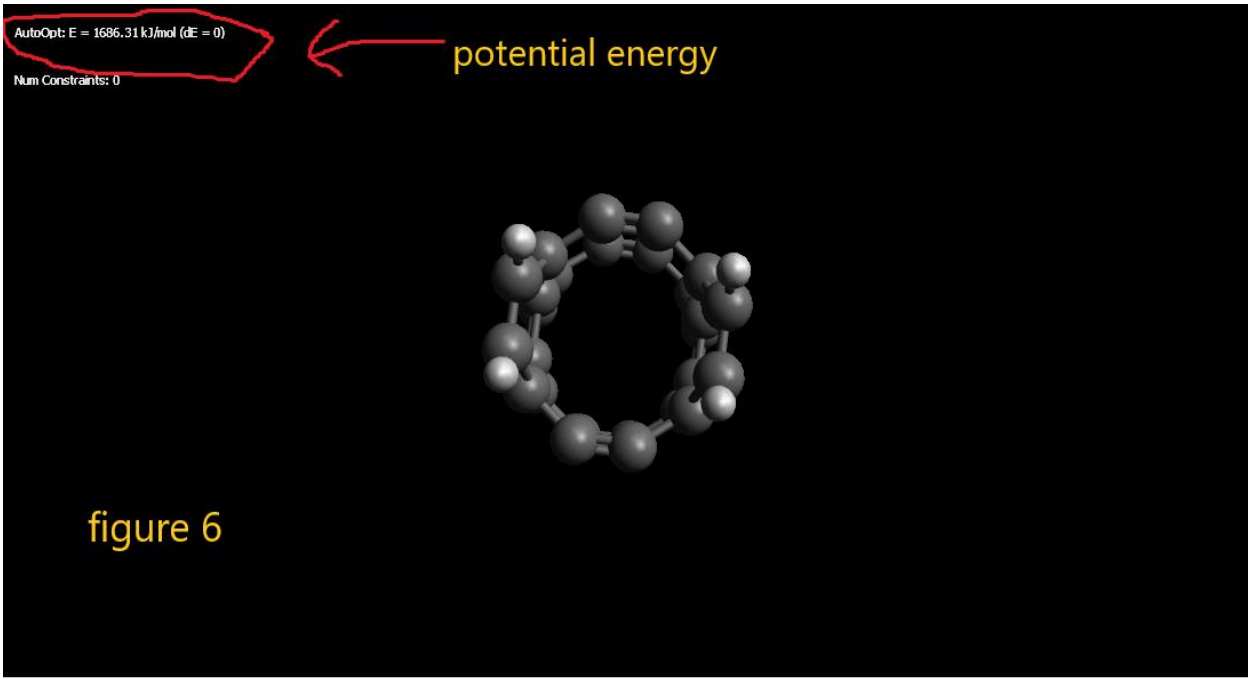

Fig. 6: Acetylenic carbon nanotube potential energy

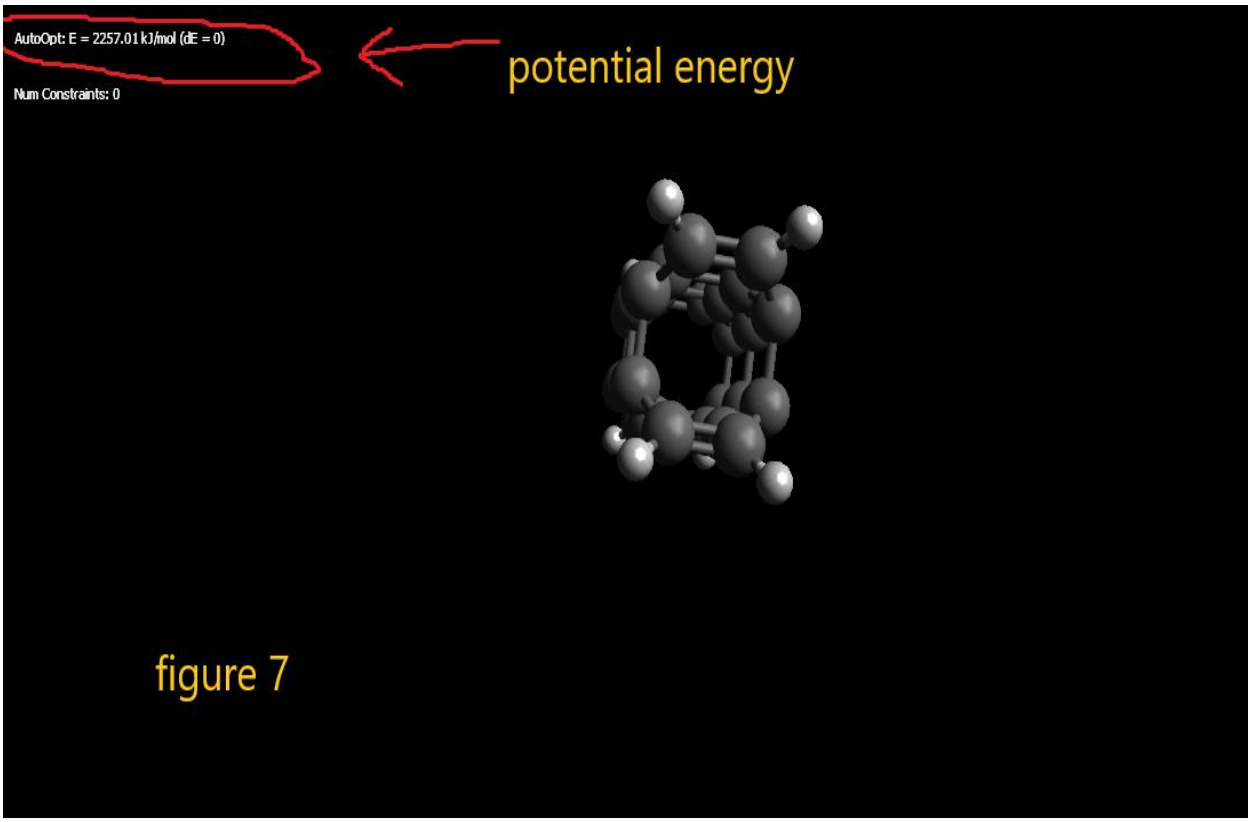

Fig. 7: normal carbon nanotube potential energy

When photon from metamaterial strike tiny borocarbon nanotube with $\nu_7 = 6.3168 \times 10^{17} Hz$ and $\lambda = 4.7492 \times 10^{-10} m$, width of tiny borocarbon nantube = 1.722 Angstrom,

The photonic number coefficient = $\frac{1.722}{4.749} = 0.3626$

Will produce harmonic momentum $P_7 = 0.3626 \times \frac{6.626 \times 10^{-34}}{4.7492 \times 10^{-10}} = 5.058 \times 10^{-25}$ is enough to move processors (show in figure 8).

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III. CONCLUSION AND POTENTIAL APPLICATION

- The most scientific terms and scientific thought and modeling and materials are created by mental imagination and by self-working, self-learning through online learning and references and work only on theoretical scale and theoretical calculations, this system lack of experimental work due to I lack of experimental support and funding.
- This energy system can replace the gasoline and fossil fuel
- This energy system can be used to produce another metamaterial for treatment of ozone depletion
- You can use graphyne for water treatment
- We can use this system to create super quantum nano robots that can protect us from all environmental hazards
- This energy system can be lay into batteries whose size range from nano-sized batteries for mobile and laptops to micro sized-batteries for car , huge quantum computer , buses , massive vehicles and houses May also whose size range from micro-sized batteries to centimeter-sized batteries for huge cities .

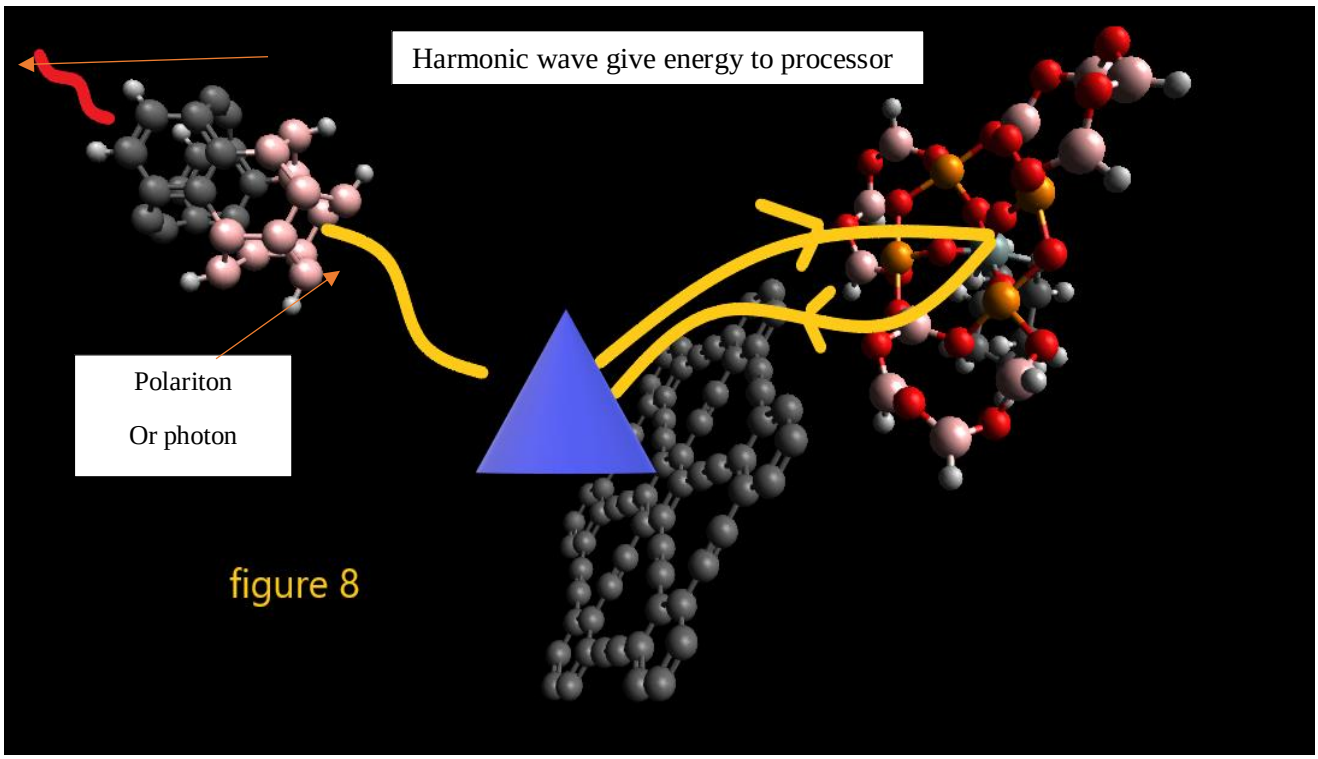

Fig. 8: (Scheme show the total energy system)

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