Explaining Pomeranchuk Effect by Parity of Magnetic Moments of Leptons and Hadrons for Superconductivity in ^{3}He and Graphene

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Abstract

The Little Effect is presented for explaining the Pomeranchuk Effect and thereby further explaining superconductivity and superfluidity of ^{3}He. On the bases of successes of Little Effect via positive and negative NMMs in particular negative NMMs of ^{3}He, the superconductivity in twisted graphene is explained and also its recently discovered Pomeranchuk Effect.

Scientists at MIT a couple of years ago observed very, very low temperature superconductivity in twisted bi-layer graphene and in last year twisted tri-layer graphene by twisting the layers by about 1 green angle [1]. But how is this twisted graphene superconductivity accounted for by the author's suggested needed negative [with prevalent positive] nuclear magnetic moments (NMMs) theory of superconductivity [2,3]. Here the author demonstrates that the electrons give the negative magnetic for negative leptonic magnetic moments (LMMs) for balancing the positive NMMs of rare ^{13}C of carbons for superconducting currents of resonating pi electrons sandwiched between C nuclei in the bi-layer and tri-layer graphene layers. Thereby it seems the prior magnetic moment theory of the author [2,3] is capable of explaining graphene low temperature superconductivity and the Pomeranchuk Effect [4]. Recently, scientists observed an unusual Effect in such superconducting graphene of it freezing as it is heated (Pomeranchuk Effect) [4]. Such effect is unusual as most substances melt when heated as oppose to freezing during heating. This is unusual Pomeranchuk Effect and it is also observed in ^{3}He [5]. But why would negative NMMs and LMMs cause freezing with thermal energy? ^{3}He also superconducts and superfluids at very low critical temperature. The bi-layer and tri-layer graphene also have very low critical temperatures for superconductivity. But, moreover, ^{3}He has negative NMM and by the author's theory [2,3], it is the negative NMMs causing both the Pomeranchuk Effect and the superconductivity and likewise in twisted bi-layer and tri-layer graphenes. So, again, the author's theory of magnetic moments positive and negative explain superconductivity [2,3].

Yes, the author can explain the Pomeranchuk Effect [5] by Little's Effect [6]. So now Little's Effect is spin and spin and/or magnetic interactions so as to alter quantum state or orbital and/or quantum orbit of fermions like electrons [6]. The triple of $e^- e^- e^-$ in graphene rings can have odd combinations for antiferromagnetism in combinations for net spin and net angular momenta of negative magnetic moment parity. So the orbiting π electrons have net negative magnetic moment and these electrons in graphene are relativistic. Relativism is uniqueness of electrons in graphene. Just as relativism manifest in nuclei and the protons and neutrons in ^{3}He have such relativistic nuclear orbitals for negative NMMs in ^{3}He. So the resulting positive and negative NMMs in the graphene and in ^{3}He cause CW and CCW orbitals and revolutions to manifest quantum fields by the fractional reversible fissing electrons and fractional, reversible fissing nuclei to transform the thermal energy to magnetic energy and electric energy and gravity and even quantum fields [2,3]; so the heat by Little's Effect is transducer to magnetic and quantum fields between the electrons in twisted graphene and ^{3}He so the extra quantum fields and/or magnetism causes freezing upon heating as the thermal energy is converted to magnetic fields and/or quantum fields for increased interactions for freezing.

So what does Little's Effect explaining Pomeranchuk Effect have to do with superconductivity? Well as the theory [2] was used as the negative and positive moments transform the thermal space to electric fields and gravitational fields and magnetic fields and quantum fields; then the heat and thermal fields cannot dissipate the superconductivity the thermal energy is transduced to fields and potential energies that support the superconductivity (rather than the disorder thermal energy dissipating the superconductivity) thereby extending my theory of superconductivity already published for Helium to twisted bilayer and trilayer graphenes.

References

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