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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 mystery of superconductivity has intrigued scientists for 110 years now. The author in 2014 specifically predicted the superconductivity in carbon, sulfur and hydrogen compounds and generally predicted carbonaceous, hydrogeneous and sulfurous compounds in 2005 with reference to scattering to asymmetric orbital motions and associated spin and orbital exchanges between nuclei and electrons. The emphasis was in 2005 upon stronger electron and nuclear interactions and electron-phonon effects. But here the author develops more the un-gerade parity of the p and f orbitals and their contributions to the superconductivity at lower pressures and higher temperatures. On the bases of such, the role of parity from the origin and inflation of the Universe is noted and dark and bright energies and matters in the mature Universe are reasoned. Moreover, the superconductors are all reasoned by positive and negative nuclear magnetic moments (NMMs) with availability of un-gerade parities of p and f subshells and their orbitals. In addition to superconductivity, such positive and negative NMMs by Little Effect is presented for explaining 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.

Keywords

Superconductivity, Pomeranchuk Effect, Little Effect, Liquid State, Nuclear Magnetic Moments

*Freezing at higher temperatures can be explained by backward orbitals for nondissipative motions.

1. Nuclear Magnetic Moments for Explaining Various Phenomena

Above room temperature superconductivity was predicted in 2014 by the author in compounds containing carbon, sulfur and hydrogen at high pressures [1]. The roles of the p orbitals and their stronger electron-nuclear interactions relative to the d orbitals and wider gaps of frontier orbitals of 2p and 3p orbitals were proposed for inducing superconductivity at higher critical temperatures (T_c). The roles of nuclear motions as vibrations of nuclei transform to rotations of nuclei were also suggested by the author for inducing and mediating superconductivity at higher temperatures [2] [3] via proton orbitals and nuclear orbitals in general. In this work, the author develops more the transformations of nuclear motions from vibrations to rotations as facilitated by nuclear spins and nuclear magnetic moments (NMMs) for not only facilitating superconductivity, but also for better explaining some chemical reactions in general and, in particular, chemical reactions of nanostructures and biomolecules for better understanding biology.

2. Novel Theory of Liquid State and New Phenomena in Solids on Basis of Nuclear Magnetic Moments

Furthermore, the author introduced nuclear rotations as facilitated by nuclear spins and NMMs for facilitating and explaining various physical properties that are currently not well theorized such as the theory of the liquid state, the explanation of melting points of various substances, the properties of various liquids, and the vaporization of liquids. Such physical properties are here proposed to be better explained by differing nuclear motions in the different physical states as the gaseous state has nuclei translating and the plasma state has nuclei possibly rotating and revolving while translating. The author introduces that the liquid state is very mysterious as the transition from gaseous to liquid states involve nuclei transforming motions from translating/vibrating nuclei to rotating nuclei. The author further notes the solid state involves the nuclei vibrating; so, solidification can better be understood by including nuclear motions of rotating nuclei in liquids to vibrating nuclei in solids during freezing. The author notes various substances differ in gas to liquid transformations depending on their isotopic compositions of spins and NMMs for inducing translating nuclei to rotating nuclei in liquid states from gaseous states and vice versa. Also, such NMMs facilitate the transformations of rotating nuclei to vibrating nuclei during freezing and vice versa by the author's model [1] [2] [3] [6].

3. NMMs for Rotating Nuclei for Liquid to Vibrating Nuclei of Solids and Explaining Pomeranchuk Effect

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 opposed to freezing during heating. This is unusual Pomeranchuk Effect and it is also observed in ^3He [5]. ^3He

also superconducts and superfluids at very low critical temperatures. The bi-layer and tri-layer graphene also have very low critical temperatures for superconductivity. But, moreover, ^3He has negative NMM and by the author's theory [6] [7], the negative NMMs cause 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 of both positive and negative chiralties explain superconductivity [2] [6] [8]. The author discovers totally original effect of nuclear parity and sign (+/−) of NMMs for causing novel nuclear and electronic effects in chemistry and physics. But why would negative NMMs and lepton magnetic moments (LMMs) cause freezing with thermal energy?

3.1. Can the Pomeranchuk Effect Be Explained?

Yes, the author can explain the Pomeranchuk Effect [5] by Little's Effect [2]. So now Little's Effect involves phenomena of spin and spin and/or magnetic interactions so as to alter quantum state or orbital and/or quantum orbits of fermions like electrons, quarks, nucleons and nuclei [2]. 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 momental parity. So, the orbiting π electrons can have net negative magnetic moments and these electrons in graphene are relativistic. Relativism is uniqueness of electrons in graphene. Just as relativism manifests in nuclei and the protons and neutrons in ^3He have such relativistic nuclear orbitals for negative NMMs in ^3He. Helium has two stable isotopes: ^3He with −2.13 NMM with spin 1/2 at 0.000137% relative abundance and ^4He with 0 NMM with spin 0 at 99.999863% relative abundance. So, the resulting positive and negative NMMs in the graphene and in ^3He 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, electric energy, gravitational energy and even quantum fields [6] [7].

By Little's theory, the transformations of thermal, electric, gravity and magnetic spaces to quantum fields require both Br and Dk fields from larger C Frame and/or the transformations of Br spaces to Dk spaces and fields as the Br spaces are accumulated and transformed. By Little's theory such transforming irrational rarefied Dk and Br spaces to QF involves relativistic accumulations with compressions and bending to form complex fields with real (Re) and imaginary (Im) parts [6] [7]. By RB Little theory the real and imaginary parts of the wavefunctions are determined to be the Br and Dk gravities, respectively. RBL finds that the Dk field is difficult to detect in our sector of the Universe as the matter of our region transforms Dk fields to QFs by accumulating and combining Br and Dk fields into the real and imaginary parts of wavefunctions. But there is limited Dk spaces in our sector of Universe and this further gives basis for the limited amount of Dk spaces and fields as they are fused with Br to form quantum fields.

3.2. Novel Energetics by Nuclear Magnetic Moments for Relativistic Little Effect

By Little's theory [1] [2] [3], the resulting fusing of Br and Dk thermal spaces form electric, gravity and magnetic spaces and even quantum fields for manifesting complex phases of wavefunctions. The resulting rational complex fields bind more strongly to explain how heating and more thermal energy with the surrounding rare Dk (Im) fields can cause freezing as the thermal energy with the Br (Re) thermal are converted to E, B and QF for stronger binding for liquid to solid transformations at the higher temperatures. The fields cannot only come from bigger space of C frame, but also from smaller denser spaces of nuclei and nucleons so neutrons and protons can release dense Br and Dk (Re and Im) spaces to electronic lattices (due to thermal agitations) for forming quantum fields and stronger bindings and further explaining Pomeranchuk Effect. Bigger rotations in liquids compress and internalize to internal rotations with consequent vibrations between the rotating quanta as the liquids solidify; and vice versa, if solids melt the internal rotations transform to bigger rotations as the bigger vibrations are transformed to bigger rotations. All positive or all negative NMMs in a liquid when further heated reach an optimum denseness of positive or negative NMMs and fields about them individually; so excess thermal fields cause ultra-relativistic motions and dissipations so the rotating nuclei persist and excesses are dissipated to surroundings by Little Rules 1 and 3 [2] [3].

But unlike either all positive or all negative NMMs, if positive and negative NMMs exist together in the liquid then the interactions prevent ultra-relativistic rotations and the thermal fields and energies are accumulated and converted to opposing charges and poles about the nuclei with consequent stronger binding fields from the thermal field accumulations by Little Rules 1 and 2 [2] [3]. For example, recently experiments demonstrate novel magnetism in $TbMn_6Sn_6$. Such magnetism in $TbMn_6Sn_6$ can be reasoned by this substance having high relative abundances of stable nuclei having positive and negative NMMs. In $TbMn_6Sn_6$, Tb has one stable isotope with nonzero NMM: ^{159}Tb with +2.014 NMM with spin 3/2 at 100% relative abundance. Sn has three stable isotopes with nonzero NMMs: ^{115}Sn with −0.919 NMM with spin 1/2 at 0.34% relative abundance; ^{117}Sn with −1.001 NMM with spin 1/2 at 7.68% relative abundance; and ^{119}Sn with −1.047 NMM with spin 1/2 at 8.59% relative abundance. Mn has one stable isotopes with nonzero NMM: ^{55}Mn with +3.45 NMM with spin 5/2 at 100% relative abundance. The higher temperatures with transduction of thermal to E, B and QF then cause binding due to stronger interactions and freezing at the higher temperatures. So, the heat by Little's Effect is transduced to magnetic and quantum fields between the electrons in twisted graphene and ^{3}He so the extra quantum fields and/or magnetism cause freezing upon heating as the thermal energy is converted to magnetic fields and/or quantum fields for increased interactions for freezing. Null NMMs lack these internal nuclear pressures for such freezing at higher temperatures.

4. NMMs and LMMs Explaining Superconductivity in Bi-Layer and Tri-Layer Graphene

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 degree angle [9]. 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 [6] [7]? Here the author demonstrates that the electrons give the negative magnetic moments by negative leptonic magnetic moments (LMMs) for balancing the positive NMMs of rare ^{13}C of carbons for superconducting currents of resonating π electrons sandwiched between C nuclei in the bi-layer and tri-layer graphene layers. C has one stable isotopes with nonzero NMM: ^{13}C with +0.702 NMM with spin 1/2 at 1.07% relative abundance. Thereby it seems the prior magnetic moment theory of the author [6] [7] is capable of explaining graphene's low temperature superconductivity and the Pomeranchuk Effect [4] [5].

5. Electromagnetic Effects on Liquid State, Pomeranchuk Effect and Superconductivity

The author further notes the importance of external electromagnetic radiations of various types (radio waves, microwaves and infrared waves) and static magnetic fields and static electric fields for accelerating or decelerating such physical changes in addition to novel catalytic and chemical changes by affecting nuclear vibrations to rotations and vice versa. Electromagnetic fields that induce rotations can favor liquid state and hinder rotations like static fields can prevent liquid or induce freezing. This effect was previously predicted and archived by author [10] [11], but afterward experiments demonstrated the electric field preventing freezing. For electromagnetic fields that prevent rotations can induce freezing, favoring solids like static fields prevent vibrations for liquefaction. For instance, researchers recently observed electric field inducing freezing [12] [13]. The electromagnetic waves and fields are denser thermal spaces and gravity spaces, so they cause altered interactions of nonzero NMMs relative to null NMMs. In 2003, the author discovered the lowering of melting point by strong static magnetic field upon silicon in hydrogen atmosphere and such may be explained by the induced rotation of ^{29}Si nuclei in the silicon at lower temperatures in the magnetic field as the nuclei vibrations transform to nuclear rotations [14]. Si has one stable isotopes with nonzero NMM: ^{29}Si with −0.555 NMM with spin 1/2 at 4.68% relative abundance. Later researchers confirm RBL prior determination of strong magnetic field affecting freezing/melting [15] and also evaporation/condensation [16]. The author further notes important effects of this presented nuclear vibrations to nuclear rotations on various novel chemical and biochemical reaction dynamics, catalyses and enzymatics and novel ways of controlling such dynamics by long wavelength electromagnetic waves and magnetic and electric fields. On such basis, the author has introduced novel effects of radiations on proteins, nucleic acids and other biochemical molecules for understanding life processes.

6. Why Nuclear and Nucleon Rotations Favor HTSC?

But here novel nuclear rotations and revolutions (relativistically); dynamics of nuclei rotating; and the interior rotations and revolutions (relativistically) of nuclei parts of nucleons are noted for explaining liquid state, liquid-solid phase transitions, sublimation, superconductivity and raising the temperature at which superconductivity occurs and finding substances that superconduct at both high temperatures and low pressures (toward atmospheric pressures). The similarity of liquid-solid phase transitions, liquid-crystal properties and superconductivity are related by this theory of RBL as these phenomena all depend on rotations or vibrations of nuclei and transitions of rotations to vibrations and vice versa. The clockwise (CW) and counterclockwise (CCW) rotations for symmetric and asymmetric rotations and revolutions are noted. Symmetric revolutions refer to the revolutions of electrons in most hydrogen and rotations of their nuclei and are arbitrarily given CW symmetry. Asymmetric orbits are given CCW symmetry. The theory [2] [3] [6] [7] here further develops the nuclear rotations and revolutions coupling to electronic orbitals and revolutions (revorbitals) for explaining superconductivity and other phenomena of physical properties, liquid crystalline properties, chemical properties, catalyses and enzymatics. But here the effects are related to the origin of the Universe and Inflation and a novel theory of bright and dark matter and interactions causing these novel phenomena of nuclear and electronic rotations and revolutions for novel properties of superconductivity, chemical transformations and nuclear reactions.

7. Parity in Mature Universe Related to Parity from Origin of Universe

The author here further develops his prior notion that bright (Br) and dark (Dk) matter with real and imaginary spaces and energies originated from the Origin of the Universe as before the Origin there was nothing (zero) and zero being infinity of zero (+1 − 1) and The Creator (−1) involved a Bang and the Bang manifested −1(s) and the Original Singularity. The Original Singularity accelerated (for time and – sensible change) in zero (1 − 1) and separates zero into 1(s) and −1(s) by Inflation of the Original Singularity as noted by the author's theory. The Inflation continues at the edge of the Universe as zero (1 − 1) at edge is perpetually separated into −1(s) and +1(s), but due to the original (−1) Singularity there is more −1. The acceleration stretches and rarefies the −1(s) in "sensible dynamics" across the bread of the universe and the acceleration is countered by the production (for "latent dynamics") of dense regions of −1(s) and +1(s) and the −1(s) are more abundant with tiny solute amounts of +1(s) in the mature Universe and manifest Dark Matter in its accumulations and in some regions +1 solvent and tinier amounts of −1 solutes (our sector of the Universe). The author proposes the stretched, fractional, irrational, superluminous −1 as dark (Im) energy and the clumps of −1 with tiny amounts of +1 as dark matter. Br matter in our sector of the universe is more clumps of +1 as Br (Re) with tinier amounts of −1 as fused to leptons and hadrons.

8. Dynamics of Clumped and Rarefied Br and Dk in Mature Universe

The author notes intrinsic time symmetry difference of Dk energy (Im) relative to Br energy (Re) as during Inflation the motion of Dk outward is simultaneous with Br and Dk clumps in latency. Such time symmetry differences of Br and Dk manifest as offset of real and imaginary components in wavefunctions for kinetic manifestations of wavefunctions. So as Br and Dk clumps experience sensible dynamics, the background (rarefied superluminous Dk) is perpetually stretching outward, but not rarefying to zero as the production of −1 (Im) at edge. But the denser clumps of +1 Br (Re) in our sector of Universe are confined and oscillate linearly, curvilinearly or spherically or composites of linear, curvaceous and spherically. But interacting with the rarefied Dk Background the Br moves against the Dk background to cause relative latent Dk background while Br is sensibly stretching or compressing. And in Dk sector the Dk clumps to move to stretch more in concert with Dk background and to compress to cancel the Dk background. So, in particles having similar clumped Dk and clumped Br, the background is cancelled as Br stretches and the Dk background cancels as the Dk clumped compresses. Thereby the rarefied Dk background causes temporal shift in the sensible and latent dynamics of clumped Br and clumped Dk. So that as clumped Br is sensible in compressing or stretching the clumped Dk at that moment is latent; and as the clumped Dk transforms from latent to sensibly dynamics of stretching or compressing then the clumped Br goes to latent. So, the imbalance of the perpetual rarefied superluminous Dk expansion in background creates imbalance between clumped Dk and clumped Br and time discontinuity to explain the clump Dk not interacting with clumped Br on some scales as in larger C Frame. On such larger scale, the rarefactions and irrationality cause Br and Dk (Re and Im) to manifest $v < c$ in complex space. But with compression and rational components of phase the linear combination causes curvature within the curving phase for C frame to collapse to L Frame of quantum fields. The clumped Dk and clumped Br exist in particles in our sector as nuclei with negative NMMs and nuclei with positive NMMs, respectively. Dark matter in other regions of the Universe has particles of negative NMMs, Dk gravity and Im spaces.

9. Such Rotations and Vibrations from Origin of Universe

The author here further develops his prior notion that bright (Br) and dark (Dk) matter and energy originated from the Origin of the Universe as before the Origin there was nothing (zero) and zero being infinity of zero (+1 − 1) and the

Creator (−1) involved a Bang and the Bang manifested −1(s) and the Original Singularity. The Original Singularity accelerated (for time and – sensible change) in zero (1 − 1) and separates zero into 1(s) and −1(s) by Inflation of the Original Singularity as noted by the author's theory. The Inflation continues at the edge of the Universe as zero (1 − 1) at edge is perpetually separated into −1(s) and +1(s) but due to the original −1 Singularity there is more −1. The acceleration stretches and rarefies the −1(s) in "sensible dynamics" across the bread of the universe and the acceleration is countered by the production (for "latent dynamics") of dense regions of −1(s) (Im) and +1(s) (Re) and the −1(s) are more abundant with tiny solute amounts of +1(s) in the mature Universe and manifest Dark Matter in its accumulations and in some regions +1 solvent and tinier amounts of −1 solutes (our sector of the Universe). The author proposes the stretched, fractional, irrationals, superluminous −1 as dark energy (Im) and the clumps of −1 with tiny amounts of +1 (Br, of Re amounts) as dark matter. Br matter in our sector of the universe is more clumps of +1 with tinier amounts of −1 as fused to leptons and hadrons.

The author notes intrinsic time symmetry difference of Dk energy relative to Br energy as during Inflation the motion of Dk outward is simultaneous with Br and Dk clumps in latency. So as Br and Dk clumps experience sensible dynamics the background (rarefied, superluminous Dk) is perpetually stretching outward but not rarefying to zero as the production of −1 at edge. But the denser clumps of +1 Br in our sector of Universe are confined and oscillate linearly, curvilinearly or spherically or composites of linear, curvaceous and spherically. But interacting with the rarefied Dk Background, the Br moves against the Dk Background to cause relative latent Dk Background while Br is sensibly stretching or compressing. And in Dk sector the Dk clumps move to stretch more in concert with Dk Background and to compress to cancel the Dk Background. So, in particles having similar clumped Dk and clumped Br the Background appears cancelled as Br stretches and the Dk Background cancels as the Dk clumped compresses. Thereby the rarefied Dk Background causes temporal shift in the sensible and latent dynamics of clumped Br and clumped Dk as clumped Br is sensible in compressing or stretching the clumped Dk at that moment is latent and as the clumped Dk transforms from latent to sensible dynamics of stretching or compressing then the clumped Br goes to latence. So, the imbalance of the perpetual, rarefied, superluminous, Dk expansion in Background creates imbalance between clumped Dk and clumped Br and time discontinuity to explain the clump Dk not interacting with clumped Br on some scales. The clumped Dk and clumped Br exist in particles in our sector as nuclei with negative NMMs and nuclei with positive NMMs. Dark matter in other regions of the Universe has particles of negative NMMs.

10. Distribution of Br and Dk in Mature Universe for Differing Transformations to QF

But in our region of the Universe these particles having tiny excess of Dk (Im) are in nuclei having negative NMMs. Most of the matter in our sector of Universe has positive NMMs or null NMMs. The protons, neutrons and electrons in our region of Universe have bright matter characteristic with some tinier essence of Dk energy and Dk matter. The excess Br as by positive and null NMMs in most matter in our sector of Universe causes dissipative motions as the kinetic energy of moving Br particles readily transforms to thermal energy in the Dk Background as the motion cannot be rhythmically confined for long enough time against transforming in the rarefied Dk Background.

In such imbalance local space, the balance of Br and Dk motions of transport in the imbalanced Background cannot be sustained so the balanced motion dissipates to thermal space in the Dk Background rarefied space. Also balance and imbalance of electric and magnetic or vibrations and rotations for solid-liquid and liquid crystallinity for superconductivity and its relation to liquid crystallinity. So, system having balance of Br and Dk and electric and magnetic oscillations for liquid crystallinity as vibrations and rotations exchange for superconducting as the vibrations cannot dissipate as the rotations attract changing vibrations as changing electric create magnetic field and the induced magnetic field attracts then magnetic field of rotations for preventing dissipation for superconductivity and superfluidity. This is applied to proteins and nucleic acids and nanowater as part has positive and negative NMMs (for magnetic and rotations) and the other parts have null NMMs (for vibrations and electric). So, the liquid crystallinity and time crystal arises as the nonzero magnetic rotations prevent the null electric vibrations from dissipating. And the nonzero electric field prevents the magnetic rotations from exploding. Even in the atom the rotating nuclei and magnetism couple to surrounding electron pairs and electric. So the electric field prevents the nuclei from exploding and the magnetic prevent the electric from dissipating for perpetual motion of biomolecules for life. But in some systems with balance of clumped positive and negative NMMs, the Br and Dk motions locally may be balanced and in oppositions so the thermal space cannot escape the opposing motions of Br and Dk and the thermal energy is transduced to electric, gravitational, magnetic and/or quantum energies. So, the motion occurs without dissipation by the thermal as the thermal is transduced to organizing fields that sustain the superconductivity and superfluidity.

11. Internal Rotations of Electrons for QF and Internal Rotations of Nuclei for Quantum Fields

In addition to NMMs, the orbital motions of electrons can manifest different symmetries of Br and Dk in directionality as manifested by orbital parity. The nuclei cannot only flip electron spin as the electron cross the nuclei and interact with nuclei. But the electrons can change orbital directions as by interacting with nuclei. And orbitals of difference angular momenta have different symmetries of the nuclei altering parity as orbitals of even azimuthal quantum numbers manifest gerade symmetries as by interacting with nuclei and orbitals of odd azimuthal numbers manifest un-gerade symmetries as by interacting with nuclei. In the model presented here, the author notes the elements having valence subshells occupied of un-gerade symmetry host superconductivity more readily as they impart more balance of odd and even parities and negative and positive momenta and Dk and Br fields (as computed by Im and Re numbers, respectively) as by interacting with nuclei with consequent transformations of thermal energies to magnetic energies and quanta. The occupancy in subshells of odd azimuthal quantum numbers (like p subshells and f subshells) contributes superconductivity at higher temperatures than electrons in orbitals of even azimuthal quantum numbers (like s and d subshells). The superconductivity occurs at even higher temperatures for the un-gerade subshells with nuclei having positive and negative NMMs. The superconductivity may be involving frontier orbitals where the ground state is gerade and there are low lying or accessible conduction states or impurities having un-gerade parity and/or positive and/or negative NMMs of the impurities.

12. Parity of Forward and Backward Motions and Superconductivity and Pomeranchuk Effect

Changes of linears to rotations require backward motions (Dk) (Im). Such backward motion can be accelerated at more energy densities or it can originate from Dk fields (Im). Parity therefore becomes important as C Frame transforms to L Frames. And Parity is necessary as L frames form NS and RS frames as forward (Re) and backward (Im) motions are produced or consumed. On the bases of such, further development of NMMs and lepton magnetic moments (LMMs), the subshell parity is further demonstrated here to explain patterns in superconductivities among elements and compounds of different elements with correlating the critical temperature and pressures required for the superconductivity. For instance, type I superconductivity was discovered in Hg at very low T_c in 1911 by Onnes [17] and such superconductivity is explained by this theory as Hg has electronic configuration with filled 6s and 5d orbitals and empty 6p orbitals. So, the superconductivity involves these frontier orbitals whereby the 6s or 5d electrons of gerade parity are excited in continuum betwixt 6p subshells of un-gerade parity. So, the 6p subshells impart mix of + and − orbital angular momenta of electrons in the orbitals for facilitating the transductions of thermal energies at higher temperatures to orbital magnetisms and the binding of scattered superconducting electrons at higher temperatures. The Hg also has isotopes of both positive and negative NMMs for facilitating such superconductivity. Hg has two stable isotopes with nonzero NMM: ^{199}Hg with +0.506 NMM with spin 1/2 at 16.87% relative abundance and ^{201}Hg with −0.560 NMM with spin 3/2 at 13.18% relative abundance. The positive and negative NMMs are like CW and CCW rotations and forward and reversal in time and they prevent vibrations from dissipating electron motions (electric vibrations) at lower temperatures. It is important that these aspects of the frontier orbitals of Hg of 6s and 5d valences and 6p conductions of gerade and un-gerade parities with isotopes of both positive and negative NMMs also explain the unusual lower melting temperature of Hg and it being the only liquid metal.

13. Different NMMs and Different Electron Configurations and Parities for Different T_c in Pure Metals

From Hg, then higher T_c(s) were observed in Pb and Nb. The NMMs and the electronic configurations contribute to HTSC as the NMMs can cause gerade and un-gerade and Br and Dk and the electronic configurations can have balanced or unbalanced spins orbitals of electrons are always unbalanced. But Br and Dk and + and − NMMs can cause balanced e^- e^- orbitals. On the bases of the orbital parity as developed more here and prior positive and negative NMMs already published, the increase in T_c from Hg to Pb follows from the valence of Pb involving unfilled 6p orbitals of un-gerade parity for the higher T_c of Pb. Pb has one stable isotope with nonzero NMM: ^{207}Pb with +0.582 NMM with spin 1/2 at 22.1% relative abundance. Comparing d electrons and p electrons can distinguish T_c (s) of Hg, Nd and Pb, as the d orbitals are like s orbitals as they are either gerade or un-gerade. But p orbitals and f orbitals are mix of gerade and un-gerade. The Nb is of a 4d has gerade orbitals in its subshell and should be less in T_c than 6p subshell of Pb and its un-gerade nature. But the NMMs of Nb counters the gerade nature of the 4d in Nb for increasing T_c. The Nb however may involve more of the unusually large +6.17 NMM with spin 9/2 with 100% of ^{93}Nb elements for affecting the gerade orbitals of 4d for explaining the superconductivity in ^{93}Nb. But the T_c of Nb is raised much higher by including Nb in compounds with some p block elements and the involvement of un-gerade p subshells and their orbitals as in NbN, NbSn and NbGe superconductors (in order of increasing T_c). It is important to note that all of the p block elements (^{15}N, ^{115}Sn, ^{117}Sn, ^{119}Sn, and ^{73}Ge) in these Nb superconducting compounds have isotopes of negative NMMs with further consistency to this theory of the author [2] [3] [6] [7]! N has one stable isotope with nonzero NMM: ^{15}N with −0.283 NMM with spin 1/2 at 0.368% relative abundance. Ge has one stable isotope with nonzero NMM: ^{73}Ge with −0.879 NMM with spin 9/2 at 7.73% relative abundance. Recently (after the original archivings of this manuscript [10] [11], experiments further substantiate this discovery of – NMMs raising T_c as Ti with its – NMMs has been observed to break record for T_c of elemental superconductors and it is transition metal of 3d series [18], Ti has two stable isotopes with nonzero NMM: ^{47}Ti with −0.788 NMM with spin 5/2 at 7.44% relative abundance and ^{49}Ti with −1.104 NMM with spin 7/2 at 5.41% relative abundance.

14. Electronic for Superconductivity in Carbon Compounds But Limits as by + and − NMMs

And then some carbon compounds as M-C_{60} (with M = K, Rb, and Cs at high pressures) and YbPdBC manifest even higher T_c than the Nb compounds and this can be reasoned by the model theory here by the p orbitals and lower principle quantum numbers of B and C relative Sn and Ge in NbSn and NbGe. But B and C have positive NMMs but the un-gerade (positive and negative lobes) nature of the p orbitals and the positive and negative NMMs in Yb and Pd are explaining the superconductivity by this model [2] [3] [6] [7] in spite of only positive NMMs in the C and B. B has two stable isotopes with nonzero NMM: ^{10}B with +1.801 NMM with spin 3 at 19.9% relative abundance; and ^{11}B with +2.689 NMM with spin 3/2 at 80.1% relative abundance. Yb has two stable isotopes with nonzero NMM: ^{171}Yb with +0.491 NMM with spin 1/2 at 14.28% relative abundance and ^{173}Yb with −0.678 NMM with spin 5/2 at 16.13% relative abundance. Pd has one stable isotope with nonzero NMM: ^{105}Pd with −0.642 NMM with spin 5/2 at 22.33% relative abundance. The observed electric field induced refrigerating ability of Mn_3SnC with zirconium titanate [19] is further substantiating this theory of the author [6] described here as these materials have stable isotopes of large relative abundances with negative NMMs (Ti, Zr and Sn) and Mn has all positive NMMs for its stable isotope. Zr has one stable isotope with nonzero NMM: ^{91}Zr with −1.304 NMM with spin 5/2 at 11.22% relative abundance. Oxygen has one stable isotope with nonzero NMM: ^{17}O with −1.894 NMM with spin 5/2 at 0.038% relative abundance. The mix of positive and negative NMMs in this material proves author's theory of such mix NMMs trapping thermal energy and converting thermal energies to electric and magnetic energies and even quantum energies [6]. On the basis of this, the author has proposed in the past [2] [3] [6] [7] that higher and even room temperature superconductivity may be observed even at low pressures toward atmospheric pressure in thin films and single to few layer $^{10}B^{15}N$ and $^{11}B^{15}N$ and $^{13}C^{17}O$ graphene oxide on the basis of the author's theory as the ^{15}N and ^{17}O enriched in these structures to 100% would give 100% negative NMMs of ^{15}N and ^{17}O for supporting the superconductivity by the negative NMMs of the ^{15}N and ^{17}O in these compounds and the un-gerade natures the 2p orbitals of the ^{15}N and ^{17}O.

15. Backward and Forward Spatial Relativistic Frames of Copper Silicates for Superconductivity

And so the superconductors involving $CeCuSi_2$ can be reasoned on basis of the ^{29}Si and its negative NMM and the 3p subshell and orbitals for Si and its un-gerade parity by 3p and furthermore the Ce and its 4f orbital and contributions of un-gerade parity by 4f orbital in the unit cell. The Cu has 3d and it orbitals do not twist backward as the 3p orbitals of Si and 4f orbitals of Ce. Cu has two stable isotopes with nonzero NMM: ^{63}Cu with +2.22 NMM with spin 3/2 at 69.17% relative abundance; and ^{65}Cu with +2.38 NMM with spin 3/2 at 30.83% relative abundance. The ligands twist backward and the Cu center twist positively as it seeds and host the spatial directions with Ce and Si perturbing the spatial directions. And UBe_{13}, UPt and $UPdAl_3$ may be reasoned for their superconductivities by this model [2] [3] [6] [7] on basis of negative (−) 1.17 NMM of ^9Be and its s subshell and orbital of gerade symmetry with 100% relative abundance and the 5f subshell and orbitals of U of un-gerade symmetry contributing un-gerade parity. U has one stable isotopes with nonzero NMM: ^{235}U with −0.35 NMM with spin 7/2 at 0.72% relative abundance. Be has one stable isotopes with nonzero NMM: ^{9}Be with −1.177 NMM with spin 3/2 at 100% relative abundance. Pt has one stable isotope with nonzero NMM: ^{195}Pt with +0.609 NMM with spin 1/2 at 33.82% relative abundance. And both U of 5f subshell contributing un-gerade parity to Pt of 6d and gerade and possible accessibility to 6p orbitals in Pt anions. The $UPdAl_3$ further manifest un-gerade orbital contributions of U to the superconductivity with negative NMMs of Pd and positive NMMs of the Al on the bases of this theory [2] [3] [6] [7] for providing forward and backward accelerated spaces for trapping thermal space, mechanical space, gravity space, electric space, magnetic space and quantum fields. Al has one stable isotopes with nonzero NMM: ^{27}Al with +3.64 NMM with spin 5/2 at 100% relative abundance.

16. Backward and Forward Spatial Relativistic Frames of Cuprates and Arsenides for Superconductivity

The cuprates may be reasoned for their superconductivity on basis of negative NMMs of few ^{17}O and the p subshells and orbitals seating the O with un-gerade parity for sustaining superconductivity with cations providing positive and negative NMMs. The arsenates of iron give strong evidence of this role of orbital magnetism and un-gerade nature of the orbital parity for the superconductivity as ^{75}As has all positive 1.43 NMMs with 3/2 spin with 100% and the ^{75}As lacks the negative NMMs as in cuprates as by ^{17}O for manifesting the superconductivity. But the positive NMMs in arsenates have central metals of iron with lone electrons spins for producing negative magnetic moments and such magnetism of the iron central atoms backwardly accelerate the superconducting 4p electrons about the As with their un-gerade parity to manifest the negative lepton moments in orbital motions by the electron spins of the iron for seating the superconductivity in arsenates by this model [2] [3] [6] [7]. Fe has one stable isotope with nonzero NMM: ^{57}Fe with +0.091 NMM with spin 1/2 at 2.12% relative abundance. The difference in magnetism of Cu and Fe in cuprates and arsenates leads to cuprates requiring negative NMMs of ^{17}O and orbital and subshells of p un-gerade for superconductivity, whereas iron arsenates do not need negative NMMs but positive NMMs of ^{75}As host superconductivity as the electron spin in Fe magnetically accelerate the un-gerade p subshells and orbitals for negative moments in the positive NMMs of the ^{75}As. Thereby, here it is reasoned the ferromagnetism with spin down aligning with negative orbital moments and Dk gravity may accelerate un-gerade orbital electrons to cause fields like emanating from nuclei having negative NMMs for countering motions of positive NMMs for preventing QF, magnetic, electric, gravitational spatial dissipations to thermal space and rarefaction of thermal space. The $v > c$ of the opposing motions prevents the thermal spatial rarefaction by this model and transduces thermal space to electric and magnetic spaces and QF for explaining superconductivity, Pomeranchuk Effect, liquid state, liquid crystallinity, energy transduction and strange metallicity.

17. Backward and Forward Spatial Relativistic Frames of High Pressure Hydrogen Sulfides for Superconductivity

So now since 2005, the author [2] proposed higher temperature superconductivity in hydrogen and sulfur containing compounds and in hydrogen and carbon compounds and also in iron hydrogen compounds. Later in 2014 and 2015, the dramatic increase in T_c was computed and observed by Ma [20] and Eremet [21], respectively. But these great advancements toward room temperature superconductors of hydrogeneous sulfides also follow from the theory here [2] [3] [6] [7] as H and its p^+ and positive NMM and s orbitals act directly on the electrons. By such, the protons of positive NMMs act directly on valence electrons of S and S has 3p and its un-gerade symmetry manifest a negative type LMM (lepton magnetic moment) of the 3p electrons in S as in H the proton is its own nucleus unlike in other elements and likewise in He. The H acts directly on the electron of the central atoms for stronger effect without effects of other nucleons in the nuclei and without core electrons of the H. H is unique in its actions and the ^3He is unique in its nucleus' action on surrounding electrons of other elements as the H and ^3He lack other nucleons and their nuclei do not dilute by core electrons as the valence electrons are the core electrons for H and He. This uniqueness of H and He was reported 1st in the prior archives [10] [11] of this manuscript. It is important to point out recent experimental results of large team of scientists that substantiates the author's prior prediction [9] [10]. The mirror stable isotopes ^3T and ^3He have higher probabilities of p^+-p^+ and n^0-n^0 collisions relative to p^+-n^0 collisions when compared to collisions in heavier stable nuclei of heavier elements with more p^+-n^0 collisions [22].

18. Backward and Forward Spatial Relativistic Frames of High Pressure Hydrogen Lanthanides and Yttrium Hydrides for Superconductivity

So the power of the author's theory [2] [3] [6] [7] is manifested even more by developments after hydrogeneous sulfides as the LaH_{10} was found to superconduct at even higher T_c. The theory described here as reasoned by the author explains the higher T_c of LaH_{10} on basis of the contribution of the un-gerade orbital symmetry of 4f subshells of La relative to the lower speed orbital un-gerade symmetry of the 3p subshells of S in hydrogeneous sulfides. But the theory is further revealed in its power as it explains the lower T_c (higher T_c and lower pressure) of YH_{10} (La^3He) relative to LaH_{10} despite higher expected T_c predicted in YH_{10} by current electron-phonon models. La has two stable isotopes with nonzero NMM: ^{138}La with +3.71 NMM with spin 5 at 0.09% relative abundance; and ^{139}La with +2.78 NMM with spin 7/2 at 99.91% relative abundance. The YH has negative NMM which tends to raise the T_c, but the Y has s subshell orbitals and s orbital is gerade symmetry, which diminishes the effect of backward motions of space with forward motions for trapping and accumulating thermal space and preventing rarefaction and dissipation of thermal space. Y has one stable isotope with nonzero NMM: ^{89}Y with −0.137 NMM with spin 1/2 at 100% relative abundance. But the La unlike the Y has 4f subshells of un-gerade symmetry for explaining the high T_c in LaH relative to YH. But the theory of the author [2] [3] [6] [7] as presented here reasons and explains the recent elevation of T_c in the YH_{10} by incorporating Pd as the Pd is more electronegative than Y and H and may fill its 5d subshells with availability of 5p subshell orbitals and the un-gerade parity of the 5p subshells for coupling with YH_{10} to raise the T_c as observed recently in such materials.

19. Backward and Forward Spatial Relativistic Frames of High Pressure Carbonaceous Hydrogen Sulfides for Superconductivity

So, in 2020 the superconductivity in carbonaceous hydrogen sulfides was observed. The theory presented [2] [3] [6] [7] here explains this superconductor as well as the carbon and sulfur are members of 2p and 3p subshells with the un-gerade parity of the p subshell orbitals for contributing negative moments by orbital Dk and – spaces for explaining the superconductivity from such orbital un-gerade parity balancing the positive NMMs of ^{1}H, ^{33}S and ^{13}C and gerade orbital symmetry for the balance hosting the superconductivity at high pressures. S has one stable isotopes with nonzero NMM: ^{33}S with +0.644 NMM with spin 3/2 at 0.76% relative abundance. But the theory [2] [3] [6] [7] presented here also explains the recent superconductivity in bi-layer and tri-layer graphene with slight twist between layers as the π orbitals and aromatic ring currents above and below the C nuclei host the superconductivity via pure p_z orbitals and their un-gerade parity. So some layers may have – parity of one graphene layer and + parity of an the nearby graphene layer for – parity aromatic rings of adjacent graphene sheets interacting to provide necessary balance of – and + magnetic moments for momentary rarefactions for Br and Dk gravities for manifesting the superconductivity as the opposing balanced motions of negative and positive NMMs and rarefactions to Br and Dk gravities for preventing thermal space to escape for transformations of the thermal energies to electric, gravitational and magnetic energies and even quantum energies for sustaining superconductivity.

There has been some controversy concerning the data on high pressure carbonaceous sulfur hydrides for near room temperature superconductivity as some noted that the electrical resistance change with temperature drops off more gradually in character in prior superconductors; but the carbonaceous sulfur hydride manifest a sharper dropoff in resistance over narrower temperature change with no broadening in applied magnetic field. In this theory of the RBL, the author (RBL) notes unlike with prior sulfur hydrides under pressure where there are core 2p ungerade orbitals to shield the sulfur 3p orbitals from nuclei of ^{33}S, with carbon doping and ^{13}C by the author's theory here there are 2p ungerard orbitals with no core 1p to experience positive NMMs directly from ^{13}C nuclei for the observed effect as the higher energy nuclear magnetic moments (NMMs) more suddenly and dramatically below some temperature threshold alters resistance with very little effects of feeble external magnetic fields. The author here notes that the mechanism of high temperature superconductivity in high pressure hydrides involving nuclei of ^{1}H, ^{13}C, and La (with emerging 1s, 2p and 4f orbitals of ungerade symmetry) is much different from the mechanism of electronic shell effects in cuprates, arsenides, magnesium diborides and mercury of older superconductors. The electrical resistances verses temperature of the cuprates, arsenides, magnesium diboride and mercury are more gradual and altered by external magnetic fields as the electronic energies of these are much smaller than nuclear energies and NMMs reversibly seeped from high pressure carbonaceous hydrides for more gradual plots of the former older superconductors and less gradual sharper changes in resistance of the later recent super-hydrides.

The controversial magnetic susceptibility changes and plots of the carbonaceous sulfur hydrides may also be reasoned by similar effects of lack of core p orbitals inside 2p and lack of core f orbitals inside 4f. So the carbonaceous sulfur hydrides by ^{13}C feel the nuclei fields more directly without shielding by inner core subshell of similar azimuthal quantum symmetry. But here the author notes that the nuclei (with decrease in temperature) may be reversibly fissing and fusing fields of much higher energies (than the surrounding electronic energies) that more suddenly cause the drop off in electronic magnetic susceptibility as the fields from nuclei diminish but even in stretching and diminishing they are still much greater than electronic energies in surrounding shells about the nuclei and so the seeped fields order the electrons so the electrons cannot magnetize below the temperature. Above the critical temperature the nuclei fractionally reversibly fiss so violently that they over power the electronic organization of magnetism in the surrounding electronic shells according to the mechanism presented here. But below the temperature (T_c), the thermal agitations are more gentle and agitate nuclei to release energy that agitate more mildly to disrupt the magnetic order and to organize the superconductivity. By the mechanism of the author, above the critical temperature the nuclei agitate so violently that the superconductivity is not allowed and the magnetization is not allowed!

The observed spikes in the magnetic susceptibility data in carbonaceous sulfur hydrides may be quantum fluctuations of the nuclei according to the theory of the author of this current manuscript. The spikes in the magnetic susceptibility plots are same height as the agitating electronic and thermal fields cause the nuclei to fractionally reversibly fiss and fuse to release nuclear fields of huge energies. In older superconductors (of the cuprates, arsenides, magnesium diboride and mercury), the temperature agitates the electrons in surrounding shells (and also nuclei of zero NMMs for smaller nuclear effects) and the temperature change agitates different number of electrons for different noise (variation in spike heights) and broader magnetic susceptibility plots and the electrons are less sensitive to the noise agitating, according to the author of the current manuscript. The author notes that the agitations are released from H nuclei individually and are of similar magnitudes beyond some threshold of noise. But for the cuprates, arsenides, magnesium diboride and mercury superconductors, the thermal agitations involve nucleons and nuclei having many nucleons and more null NMMs and consequently broader range of fissing and fusing for more gradual magnetic susceptibility plots and electric resistivity plots. Hydrogen has only one nucleon and this is why the agitations have one height and also why the magnetic susceptibility plots and electrical resistivity plots are more sudden and less gradual!

20. Backward and Forward Spatial Relativistic Frames of Low Pressure Silver and Gold Nanocomposites for Superconductivity

From a purely theoretical perspective, the author is very intrigued by reports of superconductivity in silver nanostructures in gold nanofilms of Pandey and Thapa [23]. This controversial experimental study has not been replicated. But the author has for more than two years [6] reasoned the theoretical possibility of such by the theory here as the gold has 100% positive NMMs and the silver has 100% negative NMMs for balance of the NMMs and as further developed here the electronic configurations of both Ag and Au have filled 5s and 4d and 6s and 5d subshells for available empty 5p and 6p orbitals, respectively, of un-gerade parity for hosting the higher temperature superconductivity. Au has one stable isotope with nonzero NMM: ^{197}Au with +0.148 NMM with spin 3/2 at 100% relative abundance. Ag has two stable isotopes with nonzero NMM: ^{107}Ag with −0.114 NMM with spin 1/2 at 51.84% relative abundance; and ^{109}Ag with −0.131 NMM with spin 1/2 at 48.16% relative abundance. But the experimental verification has been missing. So NMMs are more powerful for lighter elements with fewer core electrons for stronger action of the NMM on valence. But the orbital gerade and un-gerade are more powerful for elements of larger atomic number as the electrons are accelerated more in these elements. Au is more accelerated and Ag is of 5s symmetry and can involve the superconducting electron with the nucleus of the Ag of negative NMM and the Au can involve the electron to the 6s of positive NMM of Au and the Au p orbitals are un-gerade and of stronger negative lepton magnetic moments!

Just as novel effects of nonzero NMMs in carbonaceous sulfur hydrides and associated greater nuclear fields and energies assisting room temperature superconductivity for prior controversial considerations of the experimental magnetic susceptibility and electrical resistance data, the prior data of silver nanostructure in nanothin gold can also be reasoned due to effects of NMMs on emerging subshells. The data of Thapa and Pandey was said to have repeating noise between plots. Such may be a result of nuclei of nonzero NMMs of Ag and Au as reasoned by the current author of this manuscript. But the repeating noise is due to the nuclei of the Ag and Au just as the repeating noise here is from H 1s and N 2p and carbonaceous sulfur hydrides feeling nuclear noise without inner buffering core subshells of similar azimuthal symmetry. The random thermal energies agitate the denser nuclei and beyond some threshold the nuclei release the same pattern from lower energetic perspectives of atomic scales and macroscale. The disorder in the nuclei is faster than light as the dense disorders escaping the nuclei rarefy, such differences escape faster than lights and can by RBL theory be associated with gravity which is superluminous, what remains is the order, that confounds Hirsch and Skinner!

But in the case of the silver and gold the emerging subshells are conduction rather than valence and core as was considered for causing controversial data for carbonaceous sulfur hydrides. With Thapa and Pandey the Ag and Au have emerging 4f and 5g outer (empty) conduction bands that may be excited (such emerging outer conduction orbitals lack core electrons). Such excitations of these outer emerging conduction bands are possible as the density of states are greater for valence shells of larger quanta. Therefore, with increasing agitations, the nuclear magnetic moments (NMMs) may excite the electrons into these outer emerging subshell states during conduction and in these states the nuclei act more strongly on the conducting electrons without shielding from underlying subshells of similar azimuthal symmetry to cause this repeating noise. So in larger elements it is true that the core electrons of similar azimuthal symmetry more strongly muffle the nuclear fields. But also with bigger atoms the conduction subshells get closer in energy so nuclei can more affect electrons and excite electrons into these outer emerging orbital with novel effects such as superconductivity as seen in silver gold nanostructures. In such nano structures of Ag/Au the electron motions in the emerging conduction bands involve the frustration of classical mechanics by nuclei reversibly fissing and fusing fields for these nuclear disorders. Such nuclear disorders escape the nuclei and in surrounding electronic lattices stretch and order with release (superluminously of excess fields) and they transiently order to push the conducting electrons of emergent subshells without buffering from any inner core subshells of similar azimuthal symmetry. Such patterns from nuclei are quanta and if they do not match the core electrons then they transmit through not being absorbed by core subshell electrons of different azimuthal symmetries. Such nuclear pressures by the author's theory stretch out to gravity both bright and dark!

21. Conclusion

So what does Little's Effect explaining Pomeranchuk Effect have to do with superconductivity? Well as the theory [2] [3] [6] [7] was used as the negative and positive moments transform the thermal spaces to electric fields, gravitational fields, 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 the author's theory of superconductivity already published for ^3He to twisted bi-layer and tri-layer graphenes. The forward and backward motions of space as transmuting positive and negative NMMs and the Br and Dk gravities and thermal spaces from larger macroscopic spaces give Background spaces in superluminosity, which prevents the rarefaction of thermal spaces and accumulates thermal spaces to mechanical spaces, electric fields, gravity fields, magnetic fields and quantum fields for explaining how superconducting conditions may involve Pomeranchuk Effect of freezing as heating a liquid. And this theory also is consistent with the author new model of the liquid state as involving rotations of nuclei relative to surrounding electrons and relative to gaseous state involving random translocations of nuclei with their electrons and relative to the solid state as involving the vibrations of nuclei relative to surrounding electrons. So the gaseous, liquid and solid states not only involve differences in motions of whole atoms but differences in motions of nuclei relative to surrounding electrons inside atoms of substances. And this model further explains the strange metal state as it involves nuclei of high relative abundance of negative NMMs and these nuclei cannot accumulate the thermal energy and these dissipate the thermal energy at the highest rates. The Ohm conductor typically has nuclei of null NMMs and/or all positive NMMs and these Ohm conductors dissipate energy slower than strange metals. This prior comprehensive theory [1] [2] [3] [6] [7] explaining high temperature superconductivity, Pomeranchuk Effect, and liquid-solid phases and phase transitions by Little Effect as by nuclear spins of positive and negative NMMs fractionally fissing and fusing for nuclear spin liquids (as by nuclei as the nuclei in liquid state are explained by rotating nucleons and nuclei spins for nuclear spin liquid) interacting in hidden ways (superluminously) with surrounding quantum discontinuum of superconducting electronic lattices to sustain superconductivity at higher temperatures from electron-phonon scattering with nuclei releasing magnetic fields for causing magnetic vorticities induce in the superconductor by the nuclear spin liquid of positive and negative vorticities [6] is proven by researchers in 2022 [24] as they observed spin liquid having hidden magnetic fields that interact with a superconductor to cause vorticities in the superconductor.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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