

Novel Physical, Chemical and Nuclear Phenomena Driving and Driven by Neutrino Oscillations

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Abstract

A new theory is further developed for internal nucleon, quark and gluon structures for understanding new solar neutrino interactions changing macroscopic matter, nanoparticles, molecules, atoms, nuclei, and nucleons. The theory determines that dynamical phenomena involving quantum fluctuations down to nuclei, nucleons, quarks, and gluons induce fractional reversible (FR) fission and fusing of quarks and gluons nuclei and into surrounding electronic shells for activating stronger neutrino interactions for larger neutrino cross-sections. Also, such theory is described for understanding dimensionality and effects of dimensions of gluons-quark interactions. Proof of such solar neutrino driven phenomena occurring is given in earth's atmosphere, earth's core, earth's lithosphere, earth's biosphere and earth's hydrosphere. The gallium induced graphene and diamond formations are catalytically explained by such neutrino interactions. Proton induced diamond is explained by such solar neutrino interactions. Proteins and ATP activations are explained by solar neutrino interactions for driving biomolecules for life on Earth. Life in Venusian clouds is rationalized by this theory of the author of solar neutrinos driving molecules in the clouds of Venus. The recently observed accelerations of cancer and bacterial cell growths on the International Space are explained by the solar neutrino interactions given by this theory. On the other hand, the recent observation of reversal of aging by submersion in ocean water is explained by the author's dynamical neutrino interactions for driving biomolecules. Effects on life of elevating terrestrial life into orbit like International Space Station (ISS) are explainable by this introduced solar neutrino interactions with nuclei in the living organisms.

Introduction

Internal Nucleon Structures and Stabilizations by Gluons and Br and Dk Perturbations

Gluons spin in x, y, z simultaneously, which is not as classic spin (Figure 1). The gluon in proton has Dk in 1-D due to it binding up --- up and up --- down. The gluon dimension of Dk binds the down to up quarks. The gluon dimension of Br where it spins as p^+ overall spin is aspect of gluon that interacts with 2 up quarks. Scientists want to understand the p^+ spin in terms of gluon spins and quark spins. But scientists have to take in account + and - charges of up and down quarks and magnetic moments of up and down quarks. As the + up and - down quarks spin in opposite directions for net correlated spins, the gluon has to be composite of forward CW (clockwise) and backward CCW (counterclockwise) motions to simultaneously interact with up and down quarks. This CW and CCW is gravity of Br and Dk of gluon in gluon is the Dk. Dk alters proton internal interactions, Dk causes instability of neutron. As Dk externally interacts with p^+ , it causes greater Dk gluon with stronger binding of down quark to 2 bright quarks in protons, Dk modulates p^+ fission and fusion. But in neutron (see Figure 2) there are 2 Dk (down) + 1 Br (up) quark and external Dk would strengthen Dk gluon and Dk gluon is in excess and the Br gluon is in deficiency and lacking in neutrons. So gluon cannot hold Br gluon and up quark to Dk down quark in neutrons. So down quark transmutes as there is not enough Br quark to hold Dk down together in neutrons. As neutrinos have mass and interact with gravity, the neutrinos in addition to Br and Dk can interact with nucleons (protons and neutrons, and their gluons and quarks) in this way. And also the fields that cause nucleons to fractionally reversibly fission and fuse, further enhance neutrino cross-sections of atoms.

Nucleons, Quarks, Electrons, Gluons and Spins for Magnetism

The proton and its quarks and gluons has spin and angular momenta. The internal spins and their revolutions of gluons and quarks contribute to overall spin of protons. See Figure 1. The whole proton may not spin but its parts spin and revolve in their orbitals for spinrevorbitals [1]. The up quarks (\uparrow) spin in same fashion as proton spin (\uparrow), the down quark spins (\downarrow) opposite to proton (\uparrow) spin. The gluon (down) of up — up spins (up) of opposites spins. The two gluons of up — down (\downarrow) and up — down (\downarrow) spin in some fashion as proton (\uparrow). Electron (\downarrow) and proton (\uparrow) spin in same fashion as overall of p^+ spin (\uparrow). So e^- (\downarrow) binds proton, magnetically and electrically. But e^- (up) is pushed away by 2 gluons (up) binding up — down and up — down. The gluons are like forces, fields and quanta that developed due to proximity and accelerations of charges and magnetic poles [1]. Quarks cannot exist without gluons. Gluons cannot exist without quarks. One cannot form a quark must form 3 of them and the gluon between them [1]. Thereby beyond some energy momenta densities homo-particles cannot exist but hetero-particles like quarks manifest. But many quarks can interact in novel ways not considered by other scientists. And electrons (e^-) interact in wonderful ways with quarks via H atom. Electrons are fished by quarks.

Quarks and Gluons Induced Revorbitals of Electrons and Vice Versa

The attraction of e^- to two up quarks and the gluon causes it to revolve to overcome spin repulsion to spins of two up quarks. But the repulsion of the e^- to down quark and repulsion by two gluons cannot cause it to revolve to bind down quark as the spin — spin of e^- and down quark attract if acceleration of them then their spin attraction is lost. It is important to note that during collisions e^- in atoms alter spinrevorbitals and nuclei and nucleons, quarks and gluons alter their spinrevorbitals. Increasing temperature increases collisions to increase altered internal spinrevorbitals and magnetism of e^- , nuclei, nucleons, gluons and quarks. It is important to note the opposing polarities allow more dramatic inelastic alterations at lower energies for difficulty dissipating kinetic energy as thermal energy to C-Frame. In colliding, the + and – NMMs fission and fuse each other with such huge build-up of potential energies that the energy cannot dissipate to thermal energy to enlarge the density of unraveling internal fields so that the densities are so huge that they cannot release the energy to phonons as the internal rotations cannot \leftrightarrow vibrations. This is why beyond some denseness the homoparticles cannot exist. Also such denseness cannot be permanently pulled apart but transiently can order surrounding disorders to violate second law of thermodynamics. Many dense nucleons can act together to organize without release of disorder to surroundings. This causes superconductivity [2].

But rotations of nuclei can transfer momenta to e^- motions. Also in such intense internal rotations, the nuclei pull in disorder and thermal energy, organize and concentrate the thermal energy into them. Such includes pulling in neutrinos for novel proposed neutrino oscillations and cross-sections of non-zero NMMs under activated conditions. Thermal space and gravity space manifest further as neutrinos so just as RBL has reasoned by Little Rules the entrainment of thermal and gravity spaces, so also can neutrinos be entrained and scattered even if reversibly. Neutrinos are fractions of quarks and quarks are leptons. The electron is lepton and just as the electron can be scattered so also can neutrinos be scattered. The neutrinos are heterogeneous leptons irrational fractional and the electrons are homo-leptons and integer rational. (The heterogeneity of quarks and neutrinos cause more relativism of lower energies. The greater relativism of heterogeneous space and dynamics is due to motions in opposite directions of the heterospace. Such motions in opposite directions cause $v > c$ at lower kinetic energies for relativism. Such relativism of Br and Dk is why Dk is difficult to detect in dense Br of our region of universe.) Irrational fractional nature of neutrinos results in their elastic scattering. The interactions during the elastic scattering by neutrinos cause and explains many dynamics of quanta as developed more here by RBL theory. During transport, chemical reactions, thermodynamics, optics, enzymatics/ catalysis, physical processes and nuclear processes. The solar neutrinos scatter the nuclei to cause the transition states of these various processes.

Instability of neutron is due to 2 down quarks spinning in opposition to surrounding Br field of e^- . But in nucleus, the Br field of p^+ stabilize the neutron. How is Dk manifested in $+ \dots -$, $- \dots -$, and $+ \dots +$. It is important to note that as $+ \dots$ or Br interact with Br (in Dk \dots Br background) in C Frame the gravity pulls them together for electric attraction. But the Dk accumulates as Dk accumulates then the Dk starts to cause electric repulsion. Such interactions of Dk with Br \dots Br is due to the accumulated excess Br so Br repels with $v > c$. So the $v > c$ of repulsive excess Br causes the Br to interact with Dk. This is good as it again incorporates superluminality to explain Br and Dk interactions. During electric repulsion, the Dk should be detectable as introduced here by RBL. Also during such superluminality of Br \dots . Br repulsion, the neutrinos should have larger cross-sections and interact more strongly.

RBL notes here that scientists use instruments to experiment. The instruments have electric and magnetic attractions and repulsions. Such electrical interactions and magnetic interactions in the instruments disrupt the neutrinos that are measured. It may be that neutrinos interact with quanta and as scientists attempt to measure, they reverse the effects of the particles on the neutrinos. (Currently scientists have not been able to prepare neutrino - quanta interactions. They have not been able to measure a specific target. They collide neutrinos with that random targets. Then measure neutrinos after the collision and measure target after collision. But it would be better to be able to prepare specific neutrino target interactions with prior knowledge of target and neutrino. Such would allow details of frequency of neutrino-quanta interactions.) But instead scientists currently have measured neutrino momenta, then measure momenta of the target. The neutrino and target are entangled by the interaction. So when observe neutrino and target after the collision, this collapse wavefunctions. The collapse of wavefunctions of target and neutrino causes neutrino to exist in its initial state as the target is measured in its initial state. If the target is put in its initial state after collision (or no interaction) then the neutrino has to conserve energy and momenta and go back to its initial state.

Relativistic Dynamical Accelerations for Altered Uncertainty

But suppose the neutrino interacted and accelerated the target, then the final states would differ. And the change in E and B of target and neutrino would not be measured as the interaction of the instrument with target and/or neutrino would alter the state by uncertainty principle. But if the system is $v > c$ then $\lambda > 0$ or $= h/p$. $v > c$ then $p \leftrightarrow \infty$ and $\lambda \leftrightarrow 0$. So dynamical system would allow exact position of target and neutrino to overcome uncertainty principle. But unlike tradition quantum mechanics of e^- where the $v \leftrightarrow \infty$ causes uncertainty p for neutrinos (and muons). The $v > c$ causes mass to increase so increase mass can have $v < \text{or} = c$ and knowable momenta relativistically. (The forward and backward motions heterogeneous in quarks and neutrinos cause more relativism and more classical mechanics of neutrinos with quanta. On such basis RBL reasons Heisenberg reasoned for homogeneous systems having same directional motions in one direction. Such is nature of e^- about nucleus and the quantum mechanics of e^- . But nuclei have backward and forward motions for mix or heterogeneous motions for classical mechanics and quantum mechanics mixed. By the relativism of neutrinos then neutrinos manifest both quantum as well as classical natures for increased interactions as proposed here by RBL.) Relativity causes violation of uncertainty principle. So in systems where $v \leftrightarrow c$ momentarily position and momenta of neutrino and target can be known and interactions can occur more frequently. For such systems, neutrinos has wave nature of large amplitude and particle (target) has wave nature of great amplitude, so they force each other over larger space. These moments of e^- interact with neutrinos push e^- into hidden continua. But e^- relax back to discontinua to give neutrino back its energy momenta. Multiple neutrinos may cause irreversible interactions. For interact during acceleration, the acceleration internally release neutrinos so the multiple neutrinos cause multiple superlumes to see other for net change and net interactions.

Internal Structure and Dynamics of Nucleons

See Picture for illustration of proton with its interior quarks and gluons and interacting with surrounding electrons in zero magnetic field and process of applying magnetic field and the electron polarize spin with the proton spin and the relative spins before and after of the quarks and gluons of the proton relative to external electron. Such applied magnetic field is also manifested by interaction with other atoms, $h\theta$, by collisions for altering rotations and internal fields. The altered spins pull in heat and neutrinos during such processes.

Electron Interactions Based on Such Internal Nucleon Structure and Dynamics

Electric field repulsion manifest on down quark on electron. Magnetic field repulsion of electron to two gluons between up and down quarks. Magnetic field attraction to 1 quark. Apply strong magnetic field or quark field. The magnetism in quark field magnetically polarize e^- , so e^- will interact with strong force to cause weak force. The weak force is a magnetically intense force altering e^- wave. (It is important to note that the electron is a lepton (of homo-nature) just as quarks are complex leptons of hetero-natures. So why have scientists thought the electron cannot interact with strong force. They have thought such non-interactions of e^- and strong force due to different symmetries. But RBL realized that in fissioned state that hemisphere of e^- fission to manifest Br and Dk spaces and strong and L continua. It is such fissioned state of e^- that interact with strong force. Also strong force has Br and Dk so under some conditions of $v > c$ strong force can push e^- in one direction and the other direction simultaneously so the electron is pulled apart. (Such interactions of strong force with electrons and the pulling of electron apart cause stronger interactions with neutrinos.) Again relativity causes new effects between electron and nuclei. The quarks (as the electron) are leptons so they experience strong force.

Under some conditions the electron being a complex lepton can experience the strong force as reasoned by RBL. Just as e^- can experience strong force, the strong force of neutrinos can experience electric and magnetic fields of electrons under dynamical conditions as reasoned by RB Little.) So e^- wave localizes onto quarks rather than onto itself. The e^- wave fuses to e^- and refuses to wave for wave/particle duality. The magnetic field fissions e^- particle to wave. The irrationality of strong force fuses e^- to up quark. (The fissioned state of electron and nucleons can more strongly interact with neutrinos as reasoned here. Just as the high energy collisions of nuclei create excitations of quarks, gluons and nucleons of nuclei with strong magnetic fields, The collisions of atoms create strong magnetic fields that more strongly interact with neutrinos by such dynamic processes even during transport, chemical dynamics, biochemical processes, optical dynamics, and nuclear dynamics. Prior to this theory scientists have not tried to see this or reasoned it. Such experimental production and control of neutrinos is too difficult.) The gluon is irrational so gluon with neutrino irrationals act upon e^- rational waves to fuse e^- wave to particle upon the rational quark (which is rational). The momentary interaction of e^- with quarks inside nucleons throws off the metastability of the proton and neutron.

Complex Simultaneous Magnetic and Electric Interactions Inside Nucleons

The theory developed more here by the author is consistent with p^+ having 1D magnetism. But it does not predict it. Such 1-D magnetism of proton is in regards to recent observations [3] of proton in one dimension having negative correspondence gluon spins. In other measurements in the other 2 dimensions, the proton has positive correspondence with gluon spins. But why the difference and dimensional effects? I published complex momenta and magnetism of up --- up down quarks by gluons [1]. So different magnetism gluons bind up --- up quarks relative to down binding up quarks. These different magnetisms would lead to different magnetisms of quark spins and gluons relative to overall magnetisms of proton. As the author published up --- up quarks has gluon and B field and up --- down quarks and up --- down quarks [1], then one relative to up quark moving relative to down quark for

different magnetism. The author noted such for triples for superconductivity and type III and type IV superconductors [4]. Such triples of fermions have complex magnetic and electric interactions. Electrons experience complex electric and magnetic interactions inside nucleons and electrons also experience complex interactions within atoms and in C Frame of smaller magnitudes relative to inside the nucleons. These complex interactions can couple and cause electrons to transmute to waves in limit of irrationality interactions and the electron wave to transmute to electron particle in limit of rational interactions.

Complexity of Multibody Interactions

It is important to note that motions of the charges cause the magnetism and decreased motions cause electric aspect of strong force. Strong force is not only complex magnetism it manifests a complex electric field as the quarks slow in motions. The strong interaction (strong force) with the electrons can cause complex magnetic and complex electric interactions as the electrons accelerate and decelerate in the scattering with the nuclei [5]. The accelerations of electrons cause the magnetism and binding to nuclear spin more strongly. The deceleration of electron causes the electric field and the binding of electron to nuclei. The system of opposite charges accelerate and/or decelerate attract repel cyclically. External $e^- e^-$ can get entangled with internal nucleons cyclic dynamics for superconductivity. This can by RBL reasoning alter the electron-phonon interactions! This is basis of RBL NMM causing superconductivity. The electron interacts one way with + NMMs and in different way with negative NMMs. So the electrons do not dissipate their kinetic energy and the electrons maintain their correlation and coherence with the NMMs of positive (+) and negative (-). But two positive NMMs or two negative NMMs would scatter electrons in same way to dissipate the kinetic energy of the electron as it collides with the NMMs. How does electron behave as it is acted upon by multiple NMMs of patterns $+---+$, $+--- -$, and $- --- -$ NMMs? Colliding with positive NMMs may cause magnetic accelerations and the resulting accelerations are accelerated by the negative NMMs of neighboring atom. So the scattered electrons cannot diminish their kinetic energies and the two higher energy electrons maintain correlation, coherence and Cooper pairing as they cannot produce heat. Two like chiral nuclei will scatter in same way to diminish kinetic energy to produce thermal energy for breaking superconductivity and causing strange metal behavior.

In this new manuscript, the author (RBL) develops more his theory of superconductivity as induced by solid-liquid-gaseous phase transitions. Prior scientists have not considered superconductivity at very high temperatures where by most metals, semiconductors and insulators melt or gasify from solid state. The author recently noted and explained the relationship between liquid state and superconductivity by NMMs. NMMs were determined to cause superconductivity, and violations of second law of thermodynamics. The author (RBL) also explained the liquid state by substances having non-zero NMMs or induced NMMs. As the liquid state involves non-zero NMMs, the author here develops such further by presenting that the change in conditions for solids to melt or sublime can also cause superconductivity. This is a first theory of liquid state contributing to superconductivity. Prior scientists have not considered heating to liquid state causing superconductivity as by the conventional theory of superconductivity low temperatures are required. But the author (RBL) is inclined to discover and give theory of heating these substances near their liquid state can cause an unexpected superconductivity as facilitated by the liquid state. The author presents his theory here with some connecting to prior superconductors: 1) Hg; 2) high pressure metal hydrides; and 3) liquid crystal and superconductivity. 1) at atmospheric pressure Hg was observed to superconduct at very low temperature. It is important to note that Hg at room temperature is the only metal that is liquid at atmospheric pressure. Thereby cooling it to near absolute zero causes the liquid Hg to possibly freeze and it is near absolute zero Kelvin where Hg becomes a superconductor. Thereby the author (RBL) uses this to defend his theory here that liquid state can contribute or enhance superconductivity. 2) high pressures required for metal hydrides tend to create conditions where the metal hydride solid liquefies and the pressure may exceed the critical pressure so the gas and liquid become indistinguishable. Thereby high pressures tend to favor solid to liquid and the liquid state and superconductivity seem related. 3) Lastly prior scientists have noted molecules with liquid crystal properties are comparable to states wherein superconductivity occurs.

The author notes that because of internal magnetism and structure of p^+ , e^- has to go in a specific direction. It is important as well to note by the theory here that due to magnetic field and e^- coming from certain direction that the reverse would require e^- entering specific side. {RBL here notes due to the denseness and the magnetism to QF to STRONG and WEAK fields that the 3D goes to 2D to 1D [2]. And RBL further noted that this is how C Frame forms L Frame. And then RBL noted this is how many L Frames for NS and QS Frames. NS and QS Frames are multi-dimensional. So the magnetic field on NS Frame and QS Frame and RS Frame depends on direction as RBL already published [15, 18, 19] So by this RBL can reason origin of dimensions. It is important to note the author compared $e^-e^-p^+e^-$ triples and mechanics as they approaches nucleus. Metal nuclei interact with 3 fermions. p^+ and its up up down quarks interact with e^- and neutrino. {So the author also pull in new ideas on neutrino interactions as the 3-body interaction of $e^- + p^+ +$ neutrino as they collapse to neutron.}. Picture again of p^+ and its internal quarks and gluons interacting with surrounding electron and without and with a magnetic field. RBL considered pictorially differences of the structures of gluons. First the author proposed as compounded up and down quarks having CW and CCW motions. Then RBL considered gluons as either up or down and they also have Br and Dk nature; the electric aspect of gluons as their magnetically interacts were proposed by the author. It is hard to separate magnetism from electricity. {As particles interact magnetically they may be accelerated or decelerated to alter their magnetism and poles and to alter their electric charge so Coulomb force may increase or decrease! This needs to be noted.} By such picture of the p^+ and its internal gluons stronger interactions with neutrinos are reasoned.

RBL demonstrates such new interactions of neutrinos by use analog of high energy nuclei collisions and the fractional, reversible (FR) fissioning and fusing of quarks, gluons and nucleons with release of huge magnetic fields to surrounding electronic lattices. So also during transport, collisions and dynamics of atoms, nuclei, nucleons and electrons the FR fissioning and fusing release transiently huge magnetic fields and by such huge magnetic fields the scatterings of neutrinos are momentarily larger. So that during dynamics, the neutrino interactions with matter are larger than currently thought.

So by considering the internals of proton, the quarks and gluons both magnetically attract and repel and also electrically attract and repel. Changes in such interactions can change neutron and proton interactions with electrons. And such changes in those interactions can also change their interactions with neutrinos. So as apply magnetic fields, the magnetic effects on quarks and gluons can induce electric fields and charges of quarks and gluons. Magnetic fields (electric forces) can cause strong force to act on electrons and vice versa electrons can cause strong force to alter to cause weak force and electromagnetic forces. And during such novel interactions, the neutrino interactions are stronger. {Other scientists have missed this as they have power over many years and they become mathematical and their equations and functions do not make this immediately obvious to them. With more and more math, the physical models have been fewer, without physical models they have not been able to discern the mechanism. But RBL gives physical models and classical analogs to these quantum and nuclear systems. By such RBL has been able to predict novel mechanisms in quantum and nuclear systems. Other scientists have been limited by the jargon of quantum systems lack classical analog. RBL reasons beyond such!}.

It is important to consider electrically propelled and magnetically attracted quarks and gluons. Electrically attracted and magnetically repelled quarks and gluons manifest and can cause accelerated electronic interactions. Accelerated down quarks rotate decelerating up quark rotate to decrease charge. Such altered motions by the authors theory can enhance interactions with neutrinos. Decrease + charge of up quark INCREASES THEIR ATTRACTIONS. RBL REALIZES THAT THESE MANY BODY QUARK GLUON INTERACTIONS IN NUCLEONS SUBJECT NUCLEONS TO INSTABILITY! SUDDEN COLLISIONS EVEN OF PROTON CAN CAUSE UP --- UP --- DOWN quarks AND GLUON --- GLUON --- GLUON TO TRANSMUTE FROM NET BINDING TO NET fractional reversible FISSIONING AS THE ORDER OF MAGNETIC AND ELECTRIC INTERACTIONS OF

ATTRACTIONS ↔ MAGNETIC AND ELECTRIC INTERACTIONS OF REPULSIONS. But for some reason for the proton, the agitation to fission and is reversible as the repulsions increase they then decrease. But why? The surrounding bright field of bright gravity stabilizes the proton. But if the surrounding were Dark gravity then the proton would be unstable. Dark gravity is a field released from Dark protons. But neutrons in Br sectors of the Universe are unstable outside nuclei as outside nuclei the neutrons agitate and encounter the Bright gravity and Bright gravity agitates majority Dark gluons in the neutron to electron and proton by beta process. Protons have excessive Br gluons and are not destabilized by dense Br fields in our sector of Universe. Beta process is driven by bright gravity (and neutrinos). But inverse beta requires dark for as proton ↔ neutron. Nuclei with – NMMs may better catalyze inverse beta. RBL explained the unconventional nuclear reactions on such basis of catalytic atoms having nuclei of – NMMs. Inverse beta may be a basis for detecting Dark gravity. Neutron formation in hydrogen is evidence of Dark. Does neutron star formation give evidence of Dark gravity? Dark gravity opposes collapse of neutron star to black hole. The black hole formation depends not only on the mass of the star but also Dark gravity. In dark gravity, the massive stars cannot collapse to form neutron stars and black holes. But the Dark gravity causes protons and electrons to form neutrons. Dense regions in galaxies of neutron stars may be evidence of Dark gravity!

Second Law of Thermodynamics and Such Internal Nucleon Structure and Motions

{Here RBL would like to revisit his theory of second law of thermodynamics and its violation. Here the author gives new picture and mechanism. The system by RBL rules can obey second law of thermodynamics or break second law of thermodynamics depending on the energy and momenta densities. For larger energy and momenta densities, the RBL Rules 1 and 2 cause breaking of classical second law of thermodynamics; so that the surrounding thermal energy couples to the dense energy momenta system (of many + and – NMMs) and the coupling allows the system to force the thermal energy and the thermal energy to force the system. This causes diminution of the energy momenta of the system and amplification of the energy of the thermal system within denser momenta energy quanta (of many + and – NMMs). So under conditions of Little's Rules and 1 and 3, the weaker energy momental system is not sufficient for it to not be able to pull energy back from the thermal surroundings. But why? So the denser energy momental systems by Little's Rules and 2 pull the energy back from the surroundings and orders the thermal energy by the denser seed of energy and momenta. {as for why, the denser energy momental systems cannot completely disorder due to limited speed of light and rationality in its interactions with the rarefied surroundings. And the rarefied surroundings cannot dissipate or reorganize the energy fast enough by Little's Rules 1 and 2.

The further weakening of the dense systems and strengthening of the rarefied would require superluminal motions and such occurs but the superluminality reorganizes the system for transport (or other rational dynamics) of the quanta, like for chemical alterations of the dense systems or for transmutations of the systems! (Thereby under conditions for Little Rules 1 and 2, the releases of denser accumulated energy momenta are activated conditions for transport, chemical, optical, catalytic and physical changes and/or nuclear changes.) This is beautiful by RBL! So because the diminished energy momental system is still too rich to further dissipate and to organize in the surroundings, the system pulls energy momental back to it with organizing disorder by RBL Rules 1 and 2! Also the rarefied cannot take up the order fast enough. (This is why some systems can superconduct as the energy released during transport cannot escape reabsorption by dense quanta. This also is basis of life as systems cannot dissipate energy of chemical cycles in living organisms. This is basis of transmutations as protons and neutrons inside nuclei and quarks inside nucleons.) But if the denser weakened systems interact with a mother dense quanta then the other denser may pull in the released energy to dissipate or reorganize the original denser systems. This is the scenario of proton interacting with neighboring protons and neutrons in a nucleus. But for the protons interacting with the surrounding quantum fields and C Frame, then the first scenario of the protons' reversibly fissioning and fusing occurs!} What is relevance of this for neutrino interactions?

But if the denser system is not dense enough then RBL Rules 1 and 3 apply and the denser energy momenta interact with the thermal surroundings and the energy momenta force the thermal space and is weaker and the thermal space slightly disorders the energy momenta. The weaker energy momenta are not able to recover as it is too weak and there is not enough force to pull energy momenta from the surrounding thermal space and the weaker system can exhaust its energy momenta in luminous way for dissipating the dense energy momenta. There is not enough energy density for superluminescence! CAN SUPERLUMINOSITY OF ENERGY MOMENTA OCCUR IN LESS DENSE SYSTEM? Yes, but it will not be superluminescent rational fractionals but superluminescent irrational fractionals. Really superluminescent rational fractionals are not possible. The superluminescence of rational fractionals involves the rational fractionals as by RBL breaking into component irrational fractionals and the super luminescence of irrational parts and then the reconstitutions of the rational fractionals from the irrational parts. But such leads to composite luminous. [Such is as light and gravity. Light breaks to gravity irrational fractionals and the superluminescence and then the many gravities reform light rational fractionals with overall luminous. By such RBL explains entanglement as the entanglement involves fragmenting rational fractionals to irrational fractionals that are infinitely fast and communicate superluminously and the rational fractionals slower can manifest same order. But how can entanglement be broken? Is anything isolated? Dark and Bright?] So the super luminous irrational fractionals can break the faint rational energy momenta system irreversibly. BUT THE RESULTING IRRATIONALITY HAS DISSIPATED ORDER!

The orders self-disorder and cannot aggregate and congregate for thermal space. But limited aggregation is nature of thermal going to gravity! Such gravity from thermal space is Higgs field. So such weakened system cannot compete with the surrounding thermal fields and their quickness ($v > c$) so as to pull the energy back into the denser energy momental system. So the energy is diminished irreversibly to surroundings for the second law of thermodynamics,. But how can such rarefied be caused to order? External force is required or internal nuclear pressures as by nuclei can interact with these thermal spaces to pull in the thermal space and cause the slowing and proximity and ordering of the thermal space. NMMs do this and RBL made huge discovery by this! 1) Positive or all negative NMMs can pull in for thermal to work. 2) But positive and negative NMMs can pull in thermal space for work to electric and gravity and magnetic and quanta fields!}.

So unlike e^- , nucleons are composed of multiple sub-particles with internal motions. So why do quarks and gluons inside nucleons stay in motion and do not dissipate their motions? The quarks and gluons have a perpetual motion. Why? The energy density is so huge that the quarks and gluons cannot dissipate their momenta. By RBL Rules, the huge energy momenta require interactions with surrounding weaker fields. But the interactions are reversible. Why? The fractional reversible (FR) fissioning of quarks and gluons rarefies but the pieces pull back and reorganize the motions for protons. Inside nuclei, the neutrons are also stable and can pull back. The compatibilities of gluons in protons to surrounding Br gravity causes the superconductivity of protons. But neutrons are not stable and transmute as the Dk gluons in neutrons are not stable with surrounding Br gravity. So superconductivity in general can be stabilized if the binding of Cooper pairs is compatible with surrounding bath of gravity fields. $e^- e^-$ pairs are as Dk fields about down quarks and $e^- e^-$ like down --- down quarks need p^+ and dark field to glue for triples as down down quarks need up and dark gluons. In high pressure high temperature hydrides, Dk fields come from S (sulfur) induced – NMMs and La (lanthanum) induced – NMMs ...

Strong Field by Complex Magnetism by Such Nucleon Structures and Motions

The strong field is like a complex magnetism. So the gluons act on the quarks in complex magnetic ways. In different dimensions, gluons can act differently. In one dimension, gluons may pull on quarks, but in 2 other dimensions gluons may push on quarks. {The author considered if the gluons can have antiferromagnetic internal structures? With hemisphere disconnected of N and S that allow interactions to Up and Down quarks of dipolar nature. Is such hemispheric quarks the nature of gluons. Gluons are force particles like quarks fragmented or dipoles fragmented. Particle \leftrightarrow field and field \leftrightarrow

particle. But the quarks can fission $g \leftrightarrow$ gluons as quarks collide the fragmented quarks interact and the interactions form gluons as the gluons manifest hemispheres in interacting with the quarks. RBL previously proposed such in prior publication of fractional spheres represented by C C C s (forming sphered) and C backward for C forming hemispheres [2,6] . Such C, I called monopoles. So the monopoles are stabilized by surrounding dense dipoles of N/S and S/N. N/S — monopole — S/N. Two bound magnets have intervening monopoles off centered! RBL arrives at the interesting formation of off-centered separated monopoles by two surrounding stronger magnets!

RBL reasons here that the magnetic monopoles can form from weak dipoles by action of two surrounding powerful magnets (N/S — Monopole — S/N). The two surrounding magnets in imbalance cannot equally interact with the weak magnet, so they separate the weak magnet for weak dipole transforming to weak monopole S separated from weak monopole N! RBL discovers that monopoles form inside diamagnets! Such monopoles may manifest superconductivity. + NMM — monopole - - - NMM! Agitated Ag and Au of negative NMM and positive NMM may cause electron --- electron dipole to form monopoles for superconductivity! But is this an account for physical images of gluons? So by gluons as quarks fragment hemisphere the polar hemisphere}. Are such fragmented quarks quadrupoles N/S S/N ? Note rotate by 180 degrees S/N N/S. Rotate by 360 degrees N/S S/N. But rotating is not same as moving revolving 360 degrees! Rotate changes field, revolving does not change field. Revolving may cause field to point in different direction! The up(s) move CCW with N/S and down quarks move CCW with S/N. So gluons move CW with - and + charges and magnetism.

Complex Nucleon Structures, Motions and Their Interactions

Gluons have charge $-4/3$ between two up quarks (more - magnetism as bind two up quarks). Gluons $(-1/3)$ between down and up quarks have less magnitude as they bind up $(+2/3)$ to down $(-1/3)$ quarks. It is important to note intrinsic imbalance within protons and neutrons, which by RBL inclines them to instability to external agitations. Such instability is the origin of the fractional reversibly fissioning and fusing discovered by the author. The protons and neutrons are dynamical and release fields to alter electrons in ways not captured by prior other scientists. RBL discovers this effect! Protons and neutrons by such interactions interact strongly with neutrinos!

Agitations of Complex Nucleon Structures and Motions for Activation Dynamics

Neutrinos interact more with entangled gaseous, liquid and/or solid particles. Therefore in Earth's atmosphere, the molecules are entangled. So the miles of entangle atoms and molecules and ions more likely will interact with penetrating neutrinos from the sun due to non-locality of the entanglement. By such RBL can explain phenomena of spin interactions even if the spin does not penetrate the region having the atoms.

Superluminality and Stronger Interactions of Irrationals for Thermal Space and Neutrinos

But this causes problem as sum of charges of $2g$ (up - down) and g (up - up) has to \leftrightarrow zero. So if gluon (up---up) = $+4/3$ and gluon (up --- down) = $-2/3$, then gluon (up --- up) $+4/3 - 2$ gluon (up --- down) $- 2 (2/3) = 4/3 - 4/3 = 0$. But if g is dark force then g charges do not have to sum to zero, the net dark charge of g has dark gravity. Dark gravity and charge on subatomic scales can electrically bind u to u or u to d quarks. RBL notes that such interactions of B_r and D_k are possible as $v \leftrightarrow c$. The particles in nuclei approach speed of light; So the bright particles interact with dark particles. Ultra-relativity requires the interactions of bright and dark particles as they approach the speed of light. (It is important to note that the dark g would have mass, and hidden binding of quarks; other prior scientists have missed this. RBL discovers it here). Here is why at speed of light bright and dark interact. (Scientists may have unknowingly observed phenomena supporting RBL's discover of dark collisions under conditions of superluminality [6]. This may explain why prior scientists missed the dark collisions as they were looking for it under subluminal conditions!) {RBL notes also during neutrino interactions, the neutrinos move at speed of light and the motions of other particles by dynamics cause superluminality, such

superluminality causes interactions of the neutrinos!). As Br particle approach speed of light the space around them change. And as Dk particles approach speed of light, the space around them changes. The altered space is altered gravity. The altered gravity causes interactions of the particles whether they are Br or Dk. In macro-systems, such altered space is tiny as macro cannot $v \leftrightarrow c$. But for tiny quantum particles, they can $v \leftrightarrow c$. In fact, particle-wave duality has $v > c$ and particle \leftrightarrow waves. With faster motions, the energies needed are more; so mass \leftrightarrow energy, the particles diminish to space and fractions and rational irrationals. The fractionals allow faster motions. The fields and waves are highly convoluted and the fields and waves have huge angles. So the smaller particles are able to move in the smaller contours. Also the particles mutually fragment and the fragments interact. And the interacted fragments affect the particle cores.

Superluminality Enhances Interactions with Neutrinos

Neutrinos also interact strongly due to their approaching speed of light, as they may interact more strongly with the p^+ and n^0 and their quarks due to such $v \leftrightarrow c$, $v > c$. So neutrinos are less as able to interact with atoms, molecules and nanoparticles and macro particles in static equilibrium (inorganic systems). But in dynamic non-equilibrium (organic system) the macro to nano to molecular to atomic to nuclear to electronic to leptonic motions change, there are pieces of smallest $v > c$. {This is why RBL goes from nucleons to neutrinos, as considering internal of nucleons of quarks and gluons and their dynamics the activated states such nucleons-quarks-gluons activated states of particles fractionally, reversibly fissioned to waves involve neutrinos. So as quarks and gluons move inside nucleons neutrinos are produced, why do some neutrinos bind and others released? The neutrinos bind due to huge energies and momenta and motions of many fragments, relativistically. Neutrinos are produced during motions of quarks and gluons and during agitations of nucleons. Why do the neutrinos not escape the nucleons? The motions are luminous and superluminal by Little's Rules. So the superluminal motions will not allow many of the neutrinos to escape during fractional, reversible fission and fusion of nucleons, quarks, gluons and nuclei. (Analog of black hole and objects cannot escape. So we think.) But the fractionally fissioned and fused states of gluons, quarks, electrons, nucleons and nuclei may interact more strongly with an external nearby neutrino. Although the superluminal fragments of the fractional reversible fissioned nucleons-quarks-gluons cannot totally irreversibly escape, the pieces so interact very strongly with the surrounding electrons about the atoms. Such interactions of the fractional, reversible fissioned nucleons and nuclei cause much stronger interactions with neutrinos that by chance pass by the atom for larger neutrino cross-sections by the dynamics as developed further here by the author (RBL) and his theory. The interaction is stronger than the fused particles due to the matter to energy conversions and huge speeds of the fragments for huge fields approaching nuclear fields. Such fragmented nuclear fields by RBL Rules can couple to the tiny fields of the neutrino. Indeed, the fragmented nuclei can couple to smaller fields of gravity and thermal space. So the coupling and exchange of the neutrino to the fractionally fissioned nuclei, nucleons, quarks and gluons cause alterations of the neutrinos for neutrino oscillations. During nuclear reactions, the transformations change the motions such that momentarily the neutrinos cannot be held so they escape. So in considering neutrinos interacting with atoms if the motions approach motions like inside protons and neutrons then the neutrinos will be interactive. To cause such, the atoms must be accelerated to $v \sim c$ or the parts of atoms must be accelerated like during optics, accelerations, phonons, chemical change, nuclear changed biological change.

Elasticity of Interactions with Neutrinos

But why most interactions are elastic with neutrinos? The interactions involve fractional, reversible fissioned states and the Little Rules 1 and 3; so the system cannot always pull in the neutrinos. But in nuclear reactions like fusion, the Little Rules 1 and 2 manifest so the transforming nuclei can pull in the neutrinos. By RBL nuclei that are unstable like halfway between magic number nuclei are more subject to such agitations and neutrino interactions even if reversibly. The more unstable nuclei half between magic number nuclei may more strongly interact with neutrinos, but this does not mean they will undergo nuclear transmutations as the neutrino interactions may be elastic with nuclei. But the energetics

transiently of the electronic lattice and surrounding C Frame can energetically be sufficient for Little's Rules 1 and 2 for electronic lattice interacting with C Frame for novel catalytic and/or chemical or transport behaviors.

Neutrinos Interactions by Little's Rules

Although the neutrino induced nuclear dynamics are insufficiently activated for Little Rules 1 and 3 for nuclear dynamics, the lower activation energies for chemical, catalytic, optics, thermodynamics and transport with C Frame may be sufficient for Little Rules 1 and 2 for novel dynamics during transient nuclear processes. Thereby during transient neutrino interactions with nuclei by Little Rules 1 and 3, the nuclei may reversibly transmute as discovered by RBL! Depending on conditions and energetic momental activations, the unstable nuclei may reversibly or irreversibly transmute. They can under milder conditions reversibly capture the neutrino and slightly transmute by weak force to capture or release fragment of electron or strong force to capture release p^+ ; so they alter element mass number or atomic number to activate novel chemistry! In the activated state, the energy may not be sufficient for crossing activation barrier or even tunneling to irreversible transmuted product so the nucleus relaxes back to ground state releasing the neutrino but causing change in neutrino type for mechanism of neutrino oscillation!} And it is such dynamics $v>c$ of dynamic systems that causes interactions with neutrinos. But why the interactions? Neutrinos move $v>c$. The space around them changes as they encounter particles in relative motions. And the particles perceive altered space relative to neutrinos.

Smaller Particles Move Superluminously and Are More Altered by Gravity

Smaller particles accelerate to v move greater than c more easily. Smaller particles are more collective, are more easily fragmented, are subject to external contoured fields. This is why smaller particles are more subject to luminosity and superluminosity and interact in unconventional way with neutrinos. Smaller quanta of Br and Dk interact more strongly. Scientists do not understand quantum mechanics because Quantum mechanics involves Dark particles and Dark fields. If scientists incorporated Dark into mechanics, then quantum mechanics would become more rational. The difficulty detecting Dk is due to quantum mechanics. Scientists try to detect Dark by classical mechanics. Detector will be easier by quantum mechanics. But they do not understand quantum mechanics enough to use quantum mechanics to detect Dark matter. But how can quantum mechanics be understood better so it can be used to detect Dk? May be on International Space Station away from earth.

Hidden e^- Neutrino Interactions under Dynamics by Little's Rules

So the altered space of e^- in motion and quarks in motion cause altered space relativistically about the electrons and quarks {RBL notes fractional, reversible fission and fusion of nuclei as stronger by nonzero NMMs will cause stronger interactions with neutrinos [7,8]}. And the neutrinos at $v \sim c$ have alterations of their particle and space and the altered e^- and quarks near altered neutrinos and their spaces affect each other. The neutrino alters the e^- and quarks for causing fractional, reversible (FR) fission and fusion; and the e^- and quarks alter the neutrinos for causing neutrino oscillations. These interactions by Reginald B. Little (RBL) cause neutrino oscillations. Furthermore, neutrino oscillations cause quanta to oscillations causing e^- to fractionally, reversibly fission and fuse for electron particle/wave duality. But is this a new force as discovered by RBL. RBL notes the neutrinos interact with the muon to cause the odd magnetic moments of muons, and RBL notes the measure of the muon in the magnetic field increases the neutrino interactions with the muon as the magnetic field induce fractional, reversible (FR) fission and fusion of the muon and the missed muon more strongly absorb neutrinos. The muons of higher energy densities (unlike electrons) interact with neutrinos by Little Rules 1 and 2 for pulling in energy momenta from neutrinos for altering angular momenta of muons. It is important to note the muons fit the high dynamical system as given here by RBL for more strongly inelastically interacting with neutrinos. (Can you think of any other highly energetic systems with anomalies?) Electrons are less massive and of lower energy momenta (relative to muons) and the electrons interact with the neutrinos by Little's Rules 1 and 3

for elastic interactions and conserving their energy momenta [7,8]. The modelling of the nuclei has been problematic [7,8] as scientists have not included neutrino inelastic effects. Scientists have missed this. They have missed neutrinos interacting with matter. They only considered size of atoms, nuclei, e^- and neutrinos and cross sections. They do not consider relativistic effects of projectiles and targets. They (other scientists) have not considered elastic and inelastic relativistic interactions of neutrinos with atoms, e^- , nuclei. RBL has proposed B_{ext} can alter cross section for stronger interactions. How do you RBL explain why how these interactions have gone unnoticed? Difficulty detecting neutrinos [9-11], difficulty producing neutrinos, not much research on neutrinos [9-11]. Difficulty measuring neutrinos before and after interacting with target. Assumed earth's atmosphere does not affect neutrinos. On the basis of such, here the author develops his theory of superluminal mechanics allow various neutrino interactions on earth for novel mechanics for explaining many prior mysteries.

N₂ Terrestrial Atmosphere Alters Solar Neutrinos

So after all this new theory of RBL of stronger neutrino interactions, where is evidence of it? But earth's atmosphere affects neutrinos. Hundreds of miles of nitrogen (N₂) in atmosphere with lightning and chemical reactions. Muons produced by cosmic particles affect neutrinos. Also general optics of sun and high energy particles from sun and interactions with atmosphere of earth and magnetic field of earth cause relativistic motions that cause stronger interactions with neutrinos for neutrino oscillations. Scientists have missed this. But there is more as earth moves thoroughly through space the interactions of earth outer atmosphere with space cause neutrino oscillations.

Interactions of Earth with Neutrinos and Neutrinos with Earth

It is good to consider analog of earth as a ball and the motion of the huge ball at the large speed. The earth moves there are huge fields produced on earth's fractionally, reversible fissioning and fusing as it moves. These earth fields affect rays from sun and other objects in space. Neutrinos from sun hit one side of earth. How do neutrino interactions change as they hit earth in sunlight verse leaving earth on back side? Do neutrinos couple lightning on different sides of earth? Do neutrinos affect volcanoes and earthquakes. Do neutrinos alter ¹³C vs ¹²C chemistry, ¹⁵N vs ¹⁴N in atmosphere for lightning? During earthquakes, rocks crack and the chemical reactions affect neutrino interactions for causing weak interactions for nuclear reactions that release neutrons and radioactivity. Such phenomena can explain the neutrino anomaly at South Pole [12]. Yes, the rotation of the earth has the regions near North and South Poles of the earth cycling more frequently than rotations towards and at the equator. Therefore, the neutrinos released near the poles experience more frequent interactions with solar neutrinos for causing the anomalous dynamics. Such interactions can explain the odd particles released at the South Pole of the earth.

Examples of Neutrinos Inducing Chemical Reactions on Earth

Pd isotopes catalyze nuclear reactions [13]. Ga isotopes catalyze diamond nucleation and formation [14]. ¹H and ²D catalyze and nucleate diamond in H plasma under powerful microwave stimulation and induced magnetic fields [15]. RBL pointed out that H ↔ neutron is isotope effect that is enhanced as H is replaced by deuterium (²D) [16] during such CVD growth of diamond. Therefore ²D is better able to induce nucleation and growth of diamond in the microwave plasma. . Neutrinos interact with ¹H differently than ²D; as ¹H (of positive NMM) is highly unstable as ²D (of zero NMM) is also unstable and not magic number due to the magic number 2 is not involving 2p⁺ or 2n⁰ but 1p⁺ and 1n⁰. The 1p and 1n⁰ in deuterium (²D) are even more subject to fractional fissioning and fusing than the 1p⁺ in ¹H as there are twice as many nucleons fractionally fissioning and fusing in ²D for stronger fractional, reversible fissioned fields in the plasma for magnetically affecting the carbon atoms to nucleate the diamond and grow the diamond. ²D has double nucleon instability. ¹H has single nucleon instability. The double nucleon instability causes stronger fractional reversible fissioning and fusing of the nuclei! Such theory of the author (RBL), explains recent observations of more frequent proton proton collisions in nuclei of smaller mass number and more proton neutron collisions in nuclei of larger mass numbers by Jefferson Laboratory

(John Arrington, Revealing the short-range structure of the mirror nuclei ^3H and ^3He , *Nature* (2022). DOI: 10.1038/s41586-022-05007-2. www.nature.com/articles/s41586-022-05007-2). But with more and more protons and neutrons the protons and neutrons can act together for sum of protons and neutrons to manifest magic number stability and/or between magic numbers instability. This explains the contribution of nitrogen to life! As ^{14}N has $7p^+$ and $7n^0$ so that the sum of p and n^0 is 14 and 14 is half between magic numbers 8 and 20. $20 - 8 = 12$. So $12/2 = 6$ (halfway point between 8 and 20). So the halfway mass is $8 + 6 = 14$. Thereby ^{12}C and ^{14}N are very unstable nuclei explaining their roles in life as neutrino interactions induce fractional, reversible fission and fusion of C and N for activating C and N in biomolecules for biomolecular mechanics! ^{14}N is more unstable than ^{12}C as ^{14}N is directly half way between magic numbers 8 and 20 by RBL's theory! This is why nitrogen in proteins cause proteins to be more active than hydrocarbons like carbohydrates as on basis of RBL's theory the ^{14}N and ^{15}N are halfway between magic number nuclei and their nuclei are more unstable than ^{12}C nuclei to neutrino induced fractional, reversible fission and fusion for the neutrino by nitrogen causing stronger activation of proteins than carbohydrates (lacking N atoms)! Likewise, neutrinos interact more with ^{14}N and ^{15}N relative to ^{16}O based on mass of nuclei relative to magic number nuclei as ^{14}N (of positive NMM).

^{69}Ga and ^{71}Ga (of positive NMMs) also by its mass relative to magic number is more unstable and more inclined to neutrino interactions to induce its novel catalysis for low pressure diamond nucleation. The gallium mass numbers 69 and 71 are between magic numbers 50 and 82, so $82 - 50 = 32$ for distance between magic numbers. The half distance between 50 and 82 is 16 so the halfway mass between 50 and 82 is 66. The ^{69}Ga and ^{71}Ga can be reasoned unstable due to proximity to halfway mass (66) between magic numbers 50 and 82. Gallium has $31p^+$; so ^{69}Ga has $38n^0$ and ^{71}Ga has $40n^0$. So n^0 (neutron number) is halfway mass of 39 in Ga; p in gallium is not halfway mass at 31! The 38 and 71 neutrons in Ga cause a single nucleon instability! By RBL's theory, the instability of Ga nuclei causes frequent neutrino-induced fractional reversible fission and fusion of Ga nuclei for explaining Ga catalyzing nucleation of diamond. RBL proposed such instability of ^{69}Ga and ^{71}Ga in 2017 for explaining low temperature catalyzed formation of graphene from methane. See comment by RBL in { <https://www.azonano.com/article.aspx?ArticleID=4640> }. Such was more than 6 years prior to Ruoff et al observation of gallium nucleating diamond at atmospheric pressure on earth's surface!

^{25}Mg (of negative NMM) are also unstable due to its mass relative to magic number for stronger interactions with neutrinos and neutrino induced dynamics of Mg^{2+} in biomolecular reactions for life. The ^{25}Mg with mass number 25 is between magic numbers 20 and 28. The halfway distance between 20 and 28 is $8/2 = 4$. The halfway mass between magic numbers 20 and 28 is 24. The ^{25}Mg is very near the halfway mass of 24 between magic numbers 20 and 28 for explain the instability and proclivity of ^{25}Mg to neutrino induced fractional reversible fission and fusion of ^{25}Mg . Such explains by RBL's theory the role of Mg to life! So RBL explains a new isotope effect of ^1H and ^2D as by ^1H is much less releasing nuclear fields than ^2D by neutrino induced fractional, reversible fission and fusion. This explains why ^2D relieves oxidative stress [16] as it is less agitated than ^1H . Does the moon affect neutrino activity and oscillations for causing an effect on living organisms momentarily? So now is ^{31}P active between magic number nuclei? Yes, phosphorus (^{31}P) has $15p$ and $16n^0$ and the proton number is halfway between magic number 8 and 20 and the neutron number is also halfway between 8 and 20 for double nucleon instability, causing very unstable ^{31}P nuclei and the easy of neutrino induced fractional fission and fusion of ^{31}P . But the solar neutrinos do not resonate with ^{31}P as with ^1H and ^{14}N as by the CNO cycle as discovered by RBL. RBL notes the ^{31}P is induced more from ^{14}N and ^1H fractional fission and fusion by neutrinos from such ^1H and ^{14}N fractional reversible fission and fusion. Here RBL predicts that ^{17}O enriched $\text{H}_3\text{P}^{17}\text{O}_4$ and/or HN^{17}O_3 will be a room temperature atmospheric pressure superconductors!

Factors Making Neutrino Experiments Difficult

Prior neutrino studies have been difficult. So prior scientists have missed discovery by the author (RBL) of increases neutrino cross-section under transport, chemical, optical and/or nuclear dynamics.

Therefore, this new manuscript is written on neutrinos and their stronger interactions under dynamic activation of atoms. It is hard to control experiments involving neutrinos. It is hard to measure neutrinos before and after. So these difficulties are reasons why scientists have missed here present discovery of dynamic enhanced neutrino cross-sections.

Relativistic Effects for Enhanced Neutrino Cross-Sections and Interactions

So now the particles in motion have dynamics for stronger neutrino interactions. So neutrino interactions are of increasing magnitude with physical phases: solid < liquids < gases < plasma. These different physical states manifest different relative motions of atoms and neutrinos for differing relativistic effects. The chemical reactions can cause altered density of energy changes for stronger interactions of neutrinos with physical phases in order: solids > liquids > gases > plasmas. Nuclear reactions can cause even stronger energy density changes so even stronger neutrino interactions. From physical to chemical to nuclear, Little Rules 1 and 2 would more apply for pulling the neutrino into the quanta enhanced for interactions and even irreversible interactions in limit of stronger activations by Little's Rules. The liquid state by neutrino interactions exists as neutrinos interact with NMMs of substances having liquid states (Can novel effects of neutrinos forming liquid state be observed by greater proclivity of neutrinos near sun verses farther outward in solar system to earth to Jupiter to Uranus to Neptune? Is NH₃ more likely to be solid on Neptune due to it being farther from sun as it is warmer than Uranus? Can more neutrino flux in Uranus cause the liquid state although Neptune is slightly warmer. What if a planet has internal nuclear reactions? This will increase solar neutrino interactions.); RBL has already reasoned liquids exist due to nonzero NMMs of the substances. Substances lacking NMMs tend to deposit and sublime rather than gas ↔ liquid or solid ↔ liquid. The solids ↔ gases for sublimation or the gases ↔ solids for deposition for substances lacking NMMs like CO₂ and naphthalene [17]. The liquid state is the least known and understood state. Before RBL reasoned thermal space agitate NMMs to cause liquid state in analog to Brownian motion. So now RBL includes neutrinos as a thermal type space and gravitational perturbations to agitate NMMs for existence of liquid state. So RBL includes neutrinos ↔ high fields ↔ thermal fields for agitation of NMMs for causing liquid state.

Neutrinos Interact with Liquid Regions of Earth

RBL notes that the ocean is liquid water and it absorbs/scatters neutrinos differently from land as the ocean has more hydrogen in water molecules with their nonzero NMMs than land. Different transport, chemical and optical phenomena also cause different neutrino interactions of land, air and ocean. So NMMs of the land and the ocean differ on earth. So core of lithosphere deep in the earth receives imbalance of NMMs and differently dynamically driven neutrino interactions for altering processes in earth's core and temperature field distribution in earth's core. And the sun by its neutrinos alters earth's inner and outer cores to liquify as Fe, Ni, H and e⁻ spins and NMMs are agitated by the neutrinos from the sun. There is pressure, magnetic field, and temperature effects for dynamics on the neutrino oscillations deep inside the earth in its core. Neutrinos by Fe radicals and dynamics interact more strongly with earth's core. And neutrinos by radicals and NMMs dynamics in human body interact more strongly to cause normal life activities and actions of proteins and ATP and water in the body. Thereby neutrinos by dynamics of biochemical reactions alter NMMs in the body cause altered neutrino interactions for causing malfunctions of proteins, DNA and RNA and carbohydrates and lipids for disease and cancer.

Stronger Interactions of Neutrinos during Chemical Dynamics

So now during dynamics of physical changes to chemical changes, the neutrinos interactions are stronger for chemical changes than physical changes due to greater energy densities of chemical changes. Chemical changes during physical effects can heighten neutrino altered physical effects. Neutrinos thereby affect chemical reactions. It is important to note from chemical to biological reactions, the neutrino interactions are stronger as the energetics increase the couplings to neutrinos increase. So C—C and C-H bonds are stronger than Fe—Fe bonds per unit volume. Iron (Fe) has 26p⁺ and 30n⁰. So the Fe is near magic numbers and not strongly driven by solar neutrinos. Such stability of iron to solar neutrinos

contribute to stability of earth's core and stability of earth's magnetic field. But carbon and nitrogen in living organisms have half-way masses between magic number nuclei and manifest instability to neutrino induced fractional reversible fission and fusion for life in biosphere on earth. So the coupling to biological processes is stronger than coupling to lithospheric processes of earthquakes and volcanoes, by Little Rules. The couplings of neutrinos to weak interactions are stronger than chemical interactions. The couplings of neutrinos to strong (force) interactions are even stronger. RBL notes that these dynamics can couple. Physical changes couple to transport phenomena. Such dynamics can also involve chemical changes coupling to physical dynamics and transport dynamics for coupling composite phenomena to neutrinos dynamics. The biological systems can couple to physical, transport, chemical systems to neutrinos dynamics, and vice versa. The weak interaction can couple to biological, chemical, optical dynamics, and vice versa. The optical properties can couple to physical transport, chemical and biochemical properties, and vice versa. The nuclear dynamics can couple to weak, chemical biological, optical, physical and transport dynamics, and vice versa. It is important to note that the atmosphere has optical dynamics and increases as nitrogen (N) interacts with neutrinos. This gives reason for atmosphere causing neutrino oscillations. RBL already published sun light excite atmosphere and earth gravity bends excited states [18]. The instability of N to neutrino interactions is a new role of N₂ atmosphere for allowing life on earth and less life on Venus with its CO₂ atmosphere. N₂ shields life on earth from solar neutrinos which couple to ¹⁴N in biomolecules.

RBL notes further the neutrinos can stimulate the chemical and optical dynamics and vice versa the optical and chemical dynamics can stimulate strong neutrino exciting nuclei of nitrogen in the earth's atmosphere for fractional, reversible fission nuclei for the nuclear excited states to couple to gravity [5,18,19]. This is new mechanism for gravity influencing biochemistry. This can explain how gravity accelerates cancer via isotopes in cancer. Even at night neutrinos penetrate the earth and affect the atmosphere. Night stimulation of the nitrogen (N) is different from day time stimulation, as the neutrinos at night may come from interior and core of earth for coupling N to core of each atom. But during day time, neutrinos couple to sun. What is the consequence of N nuclei on opposite sides of earth each coupling to core of earth and sun in different ways. Well this causes altered correlation of day sky on one side of the earth to night sky on other side of the earth.

Manifestations of Neutrinos Driven Chemical Changes in Biosphere

At night, optical activity on other side of earth alters atmosphere for lightning at night on other side of the earth. Optical dynamics in sunlight trigger neutrino interactions with N₂, H₂O and other NMMs in the air to stimulate lightning development. So also do chemical, biological, thermal and transport dynamics induce lightning generation. Thermal dynamics and even gravity trigger neutrino interactions for causing lightning. Different dynamics of atmosphere, hydrosphere, biosphere and lithosphere are affected by neutrinos and affect neutrinos in different ways. In biosphere at night then, the neutrinos trigger sleep by altered biochemistry by the author's mechanism. If on basis of the author's theory, as developed more here, you try to sleep during the day it will cause cancer as day sleep allow radicals to alter DNA as there are neutrinos stimulating to increase radicals for such DNA damage. Is DNA repair coupled to neutrino induced motion? Then it is harder to be active at night without sun's neutrinos as the neutrinos interact with biomolecules to stimulate biomolecular mechanics. Biorhythms are driven by neutrinos. Telomeric alterations occur by altered neutrinos. ¹⁵N in telomeres cause unraveling by interactions with neutrinos. As take astronauts to space, neutrons flux is altered due to less ¹⁴N/¹⁵N overhead the organism; so neutrinos more act upon N in proteins of organism to accelerate cancer. ¹⁴N atoms are accelerated by neutrinos. ¹⁴N activity is accelerated by neutrinos. ¹⁵N is decelerated by neutrinos. So, lifting humans reducing overhead ¹⁴N above the humans; so more neutrinos act more intensely on humans for cancer.

Details of Neutrino Activating Lightning

Heat and collisions cause rattling of nuclei and rattled nuclei agitate internal p^+ and n^0 , so p^+ and n^0 scatter neutrinos more. By the author's theory, gluons, quarks, nucleons and nuclei couple to surrounding electronic orbitals by fractional reversible fission and fusion of atoms during dynamics. So the coupling of neutrinos in quarks, gluons and nucleons dynamics is extended to whole atoms by such fractional reversible fission and fusion of nuclei and many nuclei and many nuclei couple neutrinos to larger molecules and even nanoparticles. In atmosphere, the sunlight hits N to rattle N nuclei to increase absorbance of neutrinos. The constant neutrino flux from the sun causes constant fractional, reversible fission and fusion of N and H nuclei in atmosphere for coupling NMMs in atoms of molecules like N_2 and H_2O for entangled Avogadro's number of atoms quantum mechanically over miles for quantum properties on macro scale in earth's atmosphere. As nanoparticles of ice and water form in clouds, the cross sections for neutrino interactions increase. Such terrestrial macroscopic quantum entanglement is involved in charges entangled and the concerted, coherence of charge in 3D over miles pulling together to ball of charge and discharge of ball of charge to ground by negative NMMs of ^{15}N and ^{17}O agitated by neutrinos inducing fractional, reversible fission and fusion in the atmosphere of earth. During rain the e^- of H can cause neutron formation during lightning strikes, during thunderstorms. The sound of colliding atoms in thunder produces neutrons by $\text{neutrino} + e^- + p^+ \leftrightarrow \text{neutron}$.

Stronger Coupling of Solar Neutrinos to Life on Earth Due to CNO cycle in Sun

The CNO cycle of the sun involve ^{14}N , ^{15}N , ^{17}O , and ^{17}F producing neutrinos during different steps of the cycle [20]. Only 1.7% of energy from sun is from CNO cycle but this stimulates the CNO in Mercury, Venus, Earth and Mars as they are closer to the sun. The gas giants are farther from sun and they are stimulated by hydrogen and hydrogen (via proton --- proton chain occurs in sun only about 0.04%). 1H is involved in production of neutrinos as $^1H + ^1H \leftrightarrow ^2D$. Thereby the 1H in earth and in gas giants are stimulated by solar neutrinos! 1H is in living organism. And mostly ^{14}N is in living organisms so ^{14}N in sun agitates living organism. But ^{15}N can also agitate living organisms. With stronger 1H in living organisms, neutrino agitations are more intense. The production of neutrinos by ^{13}C is not involved in the cycle. Neutrinos directly from CNO solar cycle more resonate with isotopes of such nuclides of CNO cycle on earth: 1H , ^{14}N , ^{15}N , ^{18}F (via induction from ^{18}O). Thereby 1H , ^{14}N , ^{15}N , and ^{18}F on earth are very sensitive to neutrinos from the sun as the solar neutrinos come from ^{14}N , ^{15}N , and ^{18}F . So ^{14}N , ^{15}N , ^{18}F can resonate well with solar neutrinos compared to other stable nuclei. ^{13}C does not resonate well with solar neutrinos as it is not directly involved in producing neutrinos in the CNO cycle. (So now RBL notes that the entanglement of neutrino with 1H in sun will cause it to favor interactions with 1H on earth. And if neutrino collides with ^{14}N in earth's atmosphere then it will be more likely to interact with ^{14}N in molecules in hydrosphere, biosphere or lithosphere due to resonance in the solar neutrino that favors the subsequent similar terrestrial atom!) Thereby on earth, the fractional, reversible fission and fusion of nuclei of 1H , ^{14}N , ^{15}N , and ^{18}F by theory of RB Little are more subject to resonating on earth with penetrating neutrinos from the sun. So the solar neutrinos induce agitations of 1H , ^{14}N , ^{15}N , and ^{18}F for driving living organisms and altering biochemical reactions in living organisms. Although ^{18}F is not directly involved with life on earth, it is transiently associated with life by $^{18}O \leftrightarrow ^{18}F$ and this is basis of RBL's theory of ^{18}O causing cancer by its fractional, reversible (FR) transmuting to ^{18}F . Also ^{14}N and ^{15}N in atmosphere, lithosphere, and hydrosphere and ^{15}N and ^{14}N in atmosphere, lithosphere and ocean are altered by the solar neutrinos relative to other nuclei for novel dynamics of ^{15}N and ^{14}N on and within the earth!

Prior Missing Natural Chemistry on Earth Affected by Neutrinos from Sun

Scientists do chemistry in laboratory on earth. But in nature on earth, where is chemistry occurring spontaneously? The author determines novel effects by the persistent chemical dynamics on interactions with solar neutrinos, relative to matter that is not undergoing persistent chemical changes. By the author's theory, these solar neutrinos may be basis for distinction between organic and inorganic matter. In earth's atmosphere, persistent chemical dynamics causes altered solar neutrino interactions. In

biosphere, under electromagnetic pressures the persistent hydrophobic amino acids and biomolecules dynamics for and by neutrinos oscillations become more interactive with H₂O and hydrophilic biomolecules and proteins to alter biochemistry. In ocean, at bottom of ocean, CH₄ becomes persistently interacting with water for stronger neutrino interactions, magnetically polarized by bombarding neutrinos so CH₄ interacts better with water forming clathrates. In lithosphere, (in core and mantle of earth) the constant, persistent chemical changes driven stronger neutrino interactions for affecting and altering solar neutrino interactions and cross-sections.

RBL Previously Reported Neutrino Driving Lithosphere Dynamics in Core of Earth

In lithosphere at its core, the neutrinos (as RBL proposed) are focused and interact more strongly with core of earth to cause fractional, reversible fission and fusion with consequent chemistry of liquid core ↔ solid core. This can produce ⁵⁷Fe if the fractional, reversible (FR) fission and fusion become irreversible. As ⁵⁶Fe + n ↔ ⁵⁷Fe as e⁻ + p⁺ ↔ n. Such is why ⁵⁷Fe selectively solidifies to mantle? ⁵⁷Fe NMM causes it greater reactivity by the neutrons. ⁵⁷Fe solidifies into mantle due to its stronger interaction with mantle as driven by neutrino interactions. Chemical and nuclear reactions in core of earth are driven by neutrinos. Stellar activities as sunspots and solar flares release neutrinos to heat core of earth. During solar flares can scientists detect neutrinos altering and interacting with earth's magnetic field and altering earth's magnetic field? {And can the planets by their gravities and magnetic fields alter solar flares? On June 3, 2024 there is rare occasion where 6 planets align (Mercury, Mars, Jupiter, Saturn, Uranus and Neptune) [21]. Such alignment coincides with a solar flare that just missed the earth on June 3, 2024. During solar flare in prior two weeks, was the earth aligned with some other planet(s) so as to affect magnetic fields in outer layer of sun to snap the magnetic flux tube to cause the coronal mass ejection? Can planetary alignments affect and alter the cycle and period of solar eclipse on earth?}

Bacteria on International Space Station and Elevating BioSphere in Atmosphere

Bacteria flourish in space station [22]. The flourishing of bacteria on International Space Station (ISS) is here predicted to be due to stronger more intense neutrino interactions from sun. Such increased bacterial flourishing by neutrinos are also used to explain the acceleration of cancer on international space station. Cancer accelerates on ISS as more neutrino oscillations with isotopes of ¹H, ¹³C, ¹⁴N, ¹⁵N, ¹⁷O and ¹⁸O (induced spin), ²⁵Mg, ³¹P and ³³S in cancer cells. Bacteria are known to be enriched with stable isotopes relative to humans. So the isotopes of bacteria are more stimulated for bacteria proliferation on ISS. The blanket of N₂ of atmosphere is no longer present overhead of the bacteria and cancer to buffer solar neutrinos hitting the cancer and bacteria like at surface of the earth. So the neutrinos activity on cancer and bacteria on ISS is more intense than at surface of earth. Cancer like bacteria and fungi are enriched with stable isotopes to undergo stronger neutrino interactions as lift away from earth. This increased neutrino interactions with stable heavier isotopes in cancer cells cause acceleration of cancer on ISS. These effects of neutrinos on living cells can transmute ¹²C to ¹³C in Venus. This may cause concern for NASA as it gives reasons that zero gravity may not alter life as much as the altered neutrino oscillations with elevation from earth's surface. Life depends on neutrinos.

Greater Neutrino Flux Upon Venus and Life in Its Clouds

More solar neutrinos bombard Venus than earth and Mars and gas giants, but Venus is too hot. But Venusian clouds have been observed to host life [23]. These effects of neutrinos on living cells and transmutation of ¹²C to ¹³C in Venus. This is consistent with the greater neutrino flux from sun of Venus atmosphere relative to neutrino flux upon earth's atmosphere. So in Venusian clouds, the temperatures may be less and life more likely and the high neutrino flux from the sun onto Venusian clouds support life in Venusian clouds. {How do more neutrinos affect CO₂ on Venus compared to CO₂ on Mars? Mars depletes its CO₂ of ¹³C forming (¹³CO₃)²⁻ salts. ¹²CO₂ forms ¹²CO gas on Mars. But what happens on Venus with more neutrino flux and higher temperatures? Venus may less deplete ¹³C from its CO₂. This explains the result of Bruno Beard et al [24] as they observe ¹²C/¹³C ~ 86 +/- 12. In Venus atmosphere, ¹³C/¹²C is about 0.0116 or 1.16%. But for Mars, the organic matter has ¹³C/¹²C is about 0.92%. See Ref

[25]. On earth, the CO₂ in atmosphere is 1.07% and organic matter is about 1.04% on earth. So there is a trend of greater percent ¹³C with proximity to sun: Venus > Earth > Mars. But why is this? Does the neutrino induce more ¹²C to ¹³C as the neutrino flux is greater with proximity to sun?

Neutrinos Acting on Atmospheres of Other Planets

Neutrinos acting on CO₂ of Venus cause hot atmosphere of Venus. But ¹²C¹⁶O₂ lacks NMMs so less hit by neutrinos. What about Mercury? Mercury has diamond beneath its surface and scientists do not know how the diamond formed from graphite observed at Mercury surface by NASA space probe[26]. RBL here notes that the bombardment of solar neutrinos on to Mercury transmutes ¹²C in the graphite to ¹²B and ¹²B has spin = 1 and + 1.0003 NMM. The solar neutrinos also assist ¹²C ↔ ¹²N, where ¹²N has spin = 1 and 0.457 NMM. RBL here proposes nuclear reactions mechanism inside Mercury for transforming graphite to cubic diamond to BC8 superdiamond. By RBL's theory, the ¹²C transmutes to ¹²B and ¹²N and the spin =1 and + NMMs of ¹²B and ¹²N and the spin =1 and + NMMs of the ¹²B and ¹²N in graphite and cubic diamond couple to electromagnetic fields in sun for driving ¹²N nucleophile to attack ¹²B to form more densely packed sp³ hybridized B-C-N. The solar neutrinos transmute the sp³ B-C-N to sp³ C-C-C for nucleating and growing BC8 diamond from the graphite and cubic diamond beneath the surface of Mercury.

Can mysteries of Jupiter, Saturn be reasoned by solar neutrinos? What about Neptune and Uranus? Neptunian Clouds disappear due to solar neutrinos. Solar Neutrinos carry gravitomagnetism that can couple to CH₄ and NH₃ in Uranus and Neptune clouds. Neptune lacks NH₃ clouds has more H₂ and He in clouds and CH₄ in Neptunian clouds. So why the solar neutrinos affect CH₄ clouds of Neptune. Flip sun's magnetic field flip solar neutrinos. The solar magnetic change in neutrino magnetic moments from flipping of sun's magnetic field can cause neutrinos hitting Neptune to flip moments of Neptunian CH₄ for affecting the CH₄ clouds in Neptunian atmosphere. This can cause change in magnetization of CH₄ and CH₄ interactions for sublimation ↔ deposition of CH₄ ice crystals. In liquid CH₄, the CH₄ interacts by nuclear spins of CH₄. But if solar neutrinos are polarized then nuclear spins polarize nuclear spins more for liquefaction by the nonzero NMMs. Such solar neutrino dynamics do not occur in Saturn and Jupiter as they are warmer than Neptune and Uranus. Saturn and Jupiter have trace amounts of CH₄ and NH₃ with over 90% H₂ and He.

Solar Neutrino Interactions Provides Mechanism for H₄O²⁺ Formations in Neptune and Uranus

The author here uses his new solar neutrino model to explain another phenomenon in Uranus and Neptune: the formation of H₄O²⁺. Recently scientists computed high pressure and cold temperatures in Neptune and Uranus cores can induce formation of H₄O²⁺ by H₂O + p⁺ ↔ H₃O⁺ and H₃O⁺ + p⁺ ↔ H₄O²⁺ [27]. But the high activation energy of the latter protonation reaction is very large. Here RBL notes that solar neutrinos may induce activation of p⁺ for tunneling into H₃O⁺. H₃O⁺ thereby forms H₄O²⁺. The solar neutrino induced fractional, reversible (FR) fission of proton p⁺ to induce its attacking H₃O⁺ for H₄O²⁺ formation due to larger cross-section of p⁺ for neutrino H₃¹⁸O⁺ and H₃¹⁷O⁺ may have even faster neutrino scattering and induction to H₄O²⁺. The FR transmutation of ¹⁶O ↔ ¹⁶N and ¹⁶N ↔ ¹⁶C may cause even faster H₄¹⁶C⁺ formation, which then transmutes to H₄O²⁺. ¹⁵N ↔ ¹⁵O with ½ spin and 0.719 NMM; ¹⁵N ↔ ¹⁵C where ¹⁵C has spin ½ and +1.32 NMM for forming ¹⁵CH₄²⁺ ↔ (¹⁵OH₄)²⁺. ¹⁶OH₄²⁺ deep inside Neptune and Uranus may form by this theory of RBL.

Neutrinos Alter Hydrophobic - Hydrophilic Interactions

RBL notes that ¹³CH₄ is very different from ¹²CH₄ in interacting with water. The ¹³CH₄ is enriched in water Clathrates in ocean bottom due to stronger interactions than ¹²CH₄ due to the nonzero NMMs under neutrino agitation. The ocean bottom may trap ¹³CH₄. But if non polarized then no neutrinos on CH₄ lead to random oriented NMMs and more hydrophobic properties. But with polarized neutrinos then the + NMMs may be oriented for stronger interactions and hydrophilic nature. The neutrino flux alters hydrophobic to hydrophilic interactions between water and organic! This not only explains the

disappearance of Neptunian clouds, but this explains new effect of neutrinos on life. This neutrino induced alterations of organic-water interactions to cause alterations of life also. CH_4 is random oriented and lacks liquid state at low neutrino oscillations. So CH_4 (gas) \leftrightarrow CH_4 (solid) at low neutrino oscillations. But high neutrino flux oscillations, the CH_4 (gas) \leftrightarrow CH_4 (liquid) \leftrightarrow CH_4 (solid). The flip of sun's magnetic field flip neutrinos and the flipped neutrinos momentarily cause more hydrophobic organics. But as the sun's magnetic field goes through maxima the hydrocarbons are more polarized and less hydrophobic. Such can also explain N_2 and lightning during sun's cycles.

Methane melts at -285°F or (-182°C) . Ammonia melts at -107.6°F or (-77.7°C) . Uranus Temp is -140°C so CH_4 is liquid and NH_3 is solid on Uranus. Neptune's temperature is -200°C so CH_4 is solid and NH_3 is solid. So the CH_4 cloud of Neptune can change. The CH_4 's hydrophobic nature can transform from so CH_4 changes from evaporate and condense for no cloud to deposit and sublime for Clouds with flip of sun's magnetic field. Solar magnetic cycle alters physical dynamics of CH_4 in clouds of Neptune, causing the appearance and disappearance of the clouds. One may ask why water clouds on earth do not disappear as CH_4 clouds of Neptune? The water has permanent molecular dipole and the CH_4 lacks permanent molecular dipole. The permanent molecular dipole of water sustains its interactions for liquid state even as its NMMs are disorganized; so that the water clouds on earth are not disappearing with magnetic solar cycle. But on Neptune, the CH_4 lacks permanent molecular dipole so the neutrinos organize and disorganize the NMMs of CH_4 to create liquid state and annihilate liquid state of CH_4 for causing disappearance and appearing of Neptunian clouds. If CH_4 spins are polarized, then it will transform to liquid. CH_4 clouds can exist on Neptune due to low possible temperature; so solid CH_4 \leftrightarrow liquid CH_4 in Neptunian clouds due to change in neutrinos from sun. Likewise, the CH_4 in proteins are hydrophobic and can change during solar cycles on International Space Station.

Affecting BioSphere by Lowering Humans in the Ocean with Reversal of Aging

It is important to note that elevation of earth's biosphere in atmosphere of earth accelerates aging. But lowering biosphere in ocean (hydrosphere) of earth reverses aging [28]. In this manuscript, the author proposes that such lowering of aging with submersion in ocean is due to H_2O shielding the organism from neutrinos from sun. Just as N_2 in atmosphere and H_2O in ocean are stimulated by solar neutrinos. Organism are by these NMMs in the biomolecules stimulated by solar neutrinos. Such stimulations by solar neutrinos from the Sun cause life on earth and also can alter life on earth. The N_2 of atmosphere and H_2O of ocean shield biomolecules in organism to affect metabolism and life and even the aging of the organism and diseases.

Neutrino Interactions May Explain Anomalous Muon Magnetic Moments

RBL wonders can change in neutrino oscillations explain muon anomaly. As muon transport from space to earth, the magnetic moment changes. In stronger magnetic field muons change their magnetic moments relativistically by interacting with neutrinos. Muons are persistent reactive and dynamical and these persistent changes cause muons to more intensely interact with neutrinos. e^- in lightning accelerate are altered by muons relativistically.

Neutrinos Accelerate Stellar Materials

^{31}P and ATP are accelerated and stimulated by neutrinos. ^{31}P has been observed to act on Fe and Ni precursors and accelerate the formation of forming magnets (tetrataenite) [29]. RBL can explain this effect of ^{31}P accelerating the formation of the tetrataenite on basis of ^{31}P being doubly unstable by $15p^+$ and $16n^0$, both half between magic number nuclei of 8 and 20 so that the great instability of ^{31}P causes more intense neutrino induced fractional reversible fission and fusion for its catalyzing the tetrataenite formation with faster kinetics! The resulting Fe Ni alloy (tetrataenite) magnet had also been observed to form faster by neutron bombardment [30]. Neutron bombardment also produces neutrinos and neutrinos interactions with Fe and Ni alloy is here proposed to alter chemical bonds for accelerate Fe Ni

(tetrataenite) magnet formation. RBL also notes neutron bombard diamond to produce neutrinos to alter BC 8 formation.

Neutrino Accelerated Transmutations for B-C-N transforming to BC8 Superdiamond

Superdiamond (BC8) is a more dense form of sp^3 bonded crystalline carbon [31]. Scientists have been trying to form superdiamond for years. RBL has proposed using ^{13}C enriched cubic diamond, rotating X rays and strong static magnetic and electric fields to induce nucleation of superdiamond BC8 [32]. Superdiamond form by RBL theory given here as $\text{BH}_3 + \text{CH}_4 + \text{neutron} + \text{neutrino}$ as $\text{B} \leftrightarrow \text{C} \leftrightarrow$ super diamond as $\text{B-C-N} \leftrightarrow \text{C-C-C}$ as neutron by beta $p^+ + e^- \leftrightarrow n$ and reverse beta transmute B to C to N and neutrinos induce reverse beta of $e^- + p^+ \leftrightarrow n$ to cause $^{14}\text{N} \leftrightarrow ^{14}\text{C} \leftrightarrow ^{13}\text{C}$. $^{11}\text{B} \leftrightarrow ^{12}\text{C}$. Electrophile and nucleophiles are transducer? C attacks B and C attacks B to form B-(C) B then neutrons transmute B to C forming $\text{C}(\text{C})_4$ super diamond [7]. Neutrinos and neutrons can accelerate BC-8 of higher density as N and B, nucleophiles and electrophiles attack carbon in $h\nu$ pressure, neutrons, neutrinos more rapidly than C attack carbon. This forms $\text{B-C}(\text{C})_2\text{-N} \leftrightarrow$ with neutrons and neutrinos $\text{B} \leftrightarrow \text{C}$ and $\text{N} \leftrightarrow \text{C}$ to create BC8. BC8 has denseness. The denseness of BC8 requires stronger nucleophiles and electrophiles to attack carbon centers and the neutrinos and beta processes can use B and N for such purposes then after bond form the transmutations can convert B and N to C leaving BC8. What about neutrinos acting on exoplanets? Neutrinos acting on supernova outer materials. Neutrinos act inside sun and stars to accelerate nuclear reactions.

Variations in Neutrino Flux for Altered Human Complexion

Solar neutrinos near equator versus solar neutrinos near poles of earth can cause dark skin to white skin. But Why? Melanin interactions with solar neutrinos causes the melanin to shield tissue from dangerous solar electromagnetic radiation to help prevent cancer. What is melanin? How does melanin increase interactions with solar neutrinos? Melanin induces chemistry using solar neutrinos so solar neutrinos and high energy solar electromagnetic fields do not as much damage other biomolecules. The melanin has carbon ring structure and ring O and N (just as DNA and RNA) for interacting with solar neutrinos and high energy solar electromagnetic rays. Such sacrificial interactions of melanin with the neutrinos and high energy solar electromagnetic fields less probability of interactions of such solar neutrinos and electromagnetic fields with DNA and RNA for damaging DNA and RNA for transformations of cells to cancer cells. Dark skin people have this extra chemistry due to solar neutrinos interacting with their melanin. Lighter skinned people have less solar neutrino driven melanin chemistry. This extra action of solar neutrinos may be reason lighter skinned people are more prone to skin cancer due to solar neutrinos and electromagnetic radiation from sun, causing protein damage for epigenetic and DNA damage in absence of melanin. Light skinned people have greater probability of altered genes as they are closer to poles of earth; so melanin of light skinned people experience approaching solar neutrinos and receding solar neutrinos for conditions whereby multiple solar neutrino interactions cause superluminescence and more active melanin; so melanin overactivity induced by more frequent solar neutrino interactions caused diminution of melanin for lighter skin to develop from darker skin. Near the equator, darker skinned people and their melanin experience less multiple neutrino interactions and relative superluminescence by approaching and receding solar neutrinos. Dark skinned people are less prone to skin cancer due to their melanin interacting with the fewer neutrinos to cause chemistry that prevent DNA damage and protein alterations and epigenetic. But once dark skinned people get the skin cancer the melanin makes it more malignant as the melanin better traps heavy stable isotopes by their NMMs and the melanin provides these isotopes to cancer. The sun and the neutrinos from the sun are causing the cancer and the melanin protects from the cancer and the melanin can advance cancer once it is formed.

Melanin's Structure, Interaction and Synthesis by Neutrinos

Draw image of melanin structural formula. The oxygens (O) around and the nitrogens (N) are in the center of ring structure of melanin. And N may form tetravalent crown for cations. But how does such metal complex with melanin that absorb sunlight and or alter neutrino scattering? Metals may more

absorb neutrinos due to larger nuclei and more neutrons. Can sodium be transmuted to calcium of neutron by neutrinos? Melanin is produced from tyrosine. Nicotinic acid is produced from tryptophan. {Tryptophan transforms to serotonin. Phenylalanine and tryptophan are formed by... Phenylalanine can convert to tyrosine. Then tyrosine is converted to melanin. Phenylalanine, tyrosine and tryptophan are three amino acids having aromatic functional group. Body cannot synthesis phenylalanine nor tryptophan. Tryptophan and phenylalanine are essential amino acids. But phenylalanine can be converted to tyrosine. Tyrosine is nonessential amino acid. Black feather [33] deplete in ^{13}C relative to white feathers. White feathers enrich in ^{13}C to increase neutrino interaction as near poles of earth. Black feathers near equators are more depleted in ^{13}C and less interact with neutrinos near poles of earth. The white feathers near equator interact more with solar neutrinos due to enrichment with ^{13}C so white feathers are more probable to develop cancer from solar neutrinos and electromagnetic field. Does this white and black feather effect for causing cancer carry also for skin cancer formation in humans. Does melanin and carotene intrinsically deplete ^{13}C ? ^{13}C nucleophile replace ^{12}C melanin and carotene.

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