Tetryonics …. Challenging and correcting the foundations of quantum theory

Electric field permittivity has a 2pi (rhombic) field geometry while magnetic field permeability is always the result of two separate equilateral magnetic fields that form a magnetic dipole moment

Where two or more rhombic electric fields interact a Coulombic –charge force of interaction results
Where two or more equilateral magnetic fields interact a Gaussian-Ampere forces of interaction results   *[opposite fields attract - same fields repel]*

The classical model of the unidirectional electrostatic force fields of point charged particles is corrected to show a bidirectional arrangement of equilateral Planck energy momenta geometries within the electrostatic field that creates the bi-directional forces of charge interactions

Where two similar coupled equilateral energy momenta fields combine an electrostatic field is created
Where two opposite coupled equilateral energy momenta fields combine a magnetic dipole is created

The arrangement and asymmetry of Planck quantum charges with in any EM field determines the motion and acceleration of charged particles within the field of electrostatic force

The classical forces of attraction should be renamed forces of interaction
 (as they result from bidirectional quantum vector forces)

All electromagnetic fields are comprised of a squared number of equilateral Planck energy momenta quanta (whose asymmetrical distribution of equilateral Planck quanta results in a net divergent Force) with a convergent vector force component

When modelled with equilateral Planck geometries electromagnetic fields follow the Biot-Savart Law:
   - Rhombic electric fields follow the inverse squared law of propagation
   - Equilateral magnetic fields follow the inverse squared law of propagation
   - Magnetic dipole fields follow an inverse cubed law of propagation

The equilateral geometry of quantised angular momentum creates chirality at the quantum level in physics (rotation does not affect the charge of plank quanta, but mirroring and/or spatial coordinate translations do)

All positive charged fields can be modelled as having a clockwise inductive flux geometry
All negative charged fields can be modelled as having an anticlockwise inductive flux geometry
(with OMEGA representing equilateral geometries per second and PI reflecting their scalar areas]

All W bosons are comprised of an odd number of equilateral Planck quanta in a trapezoidal geometry
All Z bosons are comprised of an even number of equilateral Planck quanta in a dual-trapezoidal geometry (neutral Z bosons are equivalent in terms of Planck mass energy momenta to photons save their net geometry)

All charged fascia [Higgs bosons] are comprised of squared numbers of equilateral Planck quanta in an equilateral geometry.

The odd quanta Z bosons within electromagnetic fields form quantum levels of charged mass-energy momenta

The Planck equation [E=n.hv] of quantised energy is a generalised equation of Planck geometries (and applies to all energy momenta arrangements equally)

Bosons and Quantum levels are a transverse measure of mass energy momenta in EM fields
Photons are a longitudinal measure of mass energy momenta within the same electromagnetic fields

Equilateral Planck energy momenta per second [E/c^2] equates to mass geometries
Equilateral Planck energies momenta per second squared [E/c^4] equates to Matter topologies

Interactive **mass energy geometries** can combine via the weak force to form standing wave Matter topologies

Standing wave **Matter topologies** can combine via the strong force to form elementary subatomic particles

The fundamental Matter quantum of all physics is the tetryon (a tetrahedral mass-energy Matter topology) which is formed from photons of electrostatic energy and can be found as positive, neutral or negative charges topologies

These three forms of charged tetryons form the foundation of all the physical Matter of our universe as they seek a state of equilibrium, Tetryons are not spherical point charges – they are tetrahedral, likewise the subatomic particles they form are not spherical point charges - they are **[T]**π Tetryonic charge topologies

The Tetryonic topologies created by tetryons as they combine to form elementary particles creates new forms of closed volume topologies that follow Euler's characteristic [V+F-E = 2] for Platonic solids

Quarks and leptons are comprised of 12 charged mass energy geometries
 - quarks form *[8π]* octahedral Matter topologies
 - leptons form *[12π]* dodecahedral Matter topologies

and

Baryons are comprised of 36 charged mass energy geometries
 - forming *[20π]* Icosahedral Matter topologies

       Anti-UP quark's are comprised of 2 positive and 8 negative charges
              creating a net charge of **-8** *[-2/3 elementary charge]*
      DOWN quark's are comprised of 4 positive and 8 negative charges
              creating a net charge of **-4** *[-1/3 elementary charge]*
     Anti-DOWN quark's are comprised of 8 positive and 4 negative charges
              creating a net charge of **4** *[1/3 elementary charge]*
      UP quark's   are comprised of 10 positive and 2 negative charges
              creating a net charge of **8** *[2/3 elementary charge]*

      Positrons are comprised of 12 positive charges
         creating a net charge of **+12** *[positive integer elementary charge]*
      neutrinos are comprised of 6 positive and 6 negative charges
          creating a net charge of **0** *[no elementary charge]*
      Electrons are comprised of 12 negative charges
         creating a net charge of **-12** *[negative integer elementary charge]*

      Protons are comprised of 24 positive charges and 12 negative charges
       creating a net charge of **+12** *[positive integer elementary charge]*
      Neutrons are comprised of 18 positive and 18 negative charges
         creating a net charge of **0** *[no elementary charge]*
     anti-Neutrons are comprised of 18 positive and 18 negative charges
         creating a net charge of **0** *[no elementary charge]*
     anti -Protons are comprised of 12 positive charges and 24 negative charges
       creating a net charge of **-12** *[negative integer elementary charge]*

Rest lepton topologies have a completely neutralised magnetic dipole structure and all leptons (charged or neutral) have identical physical Matter topologies
Their rest masses are the result of the number of plank quanta comprising each Matter topology with applied forces creating additional asymmetrical KEM fields resulting in kinetic energies, magnetic moments and vector velocities of motion

As the energies of motion are added to equilateral KEM fields the Planck quanta themselves are physically WAVE-length Lorentz contracted

(Lorentz contractions apply to mass energy geometries only - NOT to Matter topologies)

Matter topologies are Lorentz invariant to velocity changes (or acceleration)
The relativistic distortion of spherical point charges in physics is no longer applicable, in turn undermining a basic tenet of special relativity as postulated by Albert Einstein

It is the equilateral secondary KEM fields of motion created by applied forces to material Matter topologies (and the asymmetrical distribution of plank charges therein) that creates the magnetic moments associated with charged particles in motion, not the relativistic distortion of spherical bodies of Matter as postulated by Einstein in special relativity

These secondary KEM fields of motion also contain the kinetic EM energies and vector [square root] linear momentum of material particles in motion - the mass energy momenta density and physical geometries of Matter topologies is unaffected by applied forces or changes to velocity-momenta

The changing Lorentz contracted mass energies of kinetic EM fields contributes to the total relativistic mass energy of Matter topologies but in no way changes the mass energy distribution of the Matter component of particles in motion itself - leading in turn to varying generations of subatomic particles with in the particle families themselves

The net asymmetric KEM field geometry of each particles in motion is reflective of the charged distribution of the Matter topology of the particle itself.

Mesons are created when quark and anti-quark particles combine via the strong force interaction between their charged fascias to create unique 14 pi Matter topologies (neutral or charged pions)

These strong interactions between opposite charge fascia of material particles and the resulting Matter topologies are evidence of the fact that Matter-antimatter combinations do not necessarily result in the explosive annihilation of the particles concerned (in fact the combining of opposite charge quarks is a necessary step in the formation of the baryons)

All Baryons are Matter topologies created from the combination of tri-quark topologies
The quark's combine via their opposite charged [Higgs] fascia to create neutral and charged elementary topologies
Due to this opposite charge interaction the charged distribution of baryonic topologies does not follow the textbook given arrangements of [UUD] & [DDU] instead they are arranged as follows:

Protons	UP	+	DOWN	+	UP
Neutrons	DOWN	+	UP	+	DOWN
anti-Neutrons	anti-DOWN	+	anti-UP	+	anti-DOWN
anti-Protons	anti-UP	+	anti-DOWN	+	anti-UP

The specific arrangement of charged fascia within these respective Matter topologies goes on to facilitate nuclear bonding via the residual strong force between atomic nuclei, following the charge arrangement given in modern textbooks does not allow the formation of baryons or their subsequent bonding to form larger scale atoms and molecules

Protons and neutrons are revealed to have quark arrangements that are mirror symmetries of each other, revealing the neutral charge neutron to have a complementary negative charge arrangement to that of protons.

The increased Planck mass energy contents of various families of quarks facilitates the creation of a huge number of possible Baryon topologies resulting in the particle zoo of subatomic elements created in particle collisions within accelerator experiments - all of these elements can be easily modelled and accounted for using Tetryonic mass-energy Matter topologies

Additionally, the particles often referred to as gluons within the standard model can be easily accounted for and explained as being neutral tetryons within Tetryonic theory - where these neutral charge Matter topologies form a neutral Matter dielectric between charged tetryons to facilitate the strong force interaction and the formation of larger particles

Neutral tetryons (gluons) can also form particles in their own right (neutrinos and glue-balls), as can charged tetryons (charge-ball particles), most of which are short lived

Tetryonics reveals the previously hidden geometry and topology of electromagnetic fields and subatomic particles and the geometric relationship and interplay between electric permittivity and magnetic permeability within all EM field that results on the speed of light in any medium.

As well as the revealing a geometric source of all physical constants within physics itself, Tetryonic charge geometries show the weak force to be a magnetic dipole [edge] interaction between mass energy geometries and Matter topologies and the strong force to be a charge [fascia] interaction between Matter topologies themselves

The equilateral [quantised angular momentum] of **inductive** Planck mass energy geometries within squared [HIGGS] fascia of Matter topologies is what creates **inertial** properties of Matter at the quantum level

The strong force between charged parallel Higgs fascia of Matter topologies results in 'hidden' partitions of mass energy with in the Matter topologies of quark's and baryons leading to the inability of mathematics online to accurately model and understand the physics of creating these particles at the quantum level

Tetryonic charged mass energy geometries allows for the accurate 2D and 3D modelling of all Matter topologies and fields of Force interactions within physics

It reveals that the deuterium atom [not the hydrogen atom] is the quantum building block of all elementary Matter - the unique charge topology of deuterium (consisting of a proton, neutron and electron) can be related to the electromechanical topology and function of quantum synchronous converters.

These quantum synchronous converters absorb and emit mass energies via the rotating electrons [quantum rotors] bound to the nuclei by way of radiant bosons and photons [heat and light]

The net charge of Deuteron nuclei facilitates their binding together to form helium and larger atoms, while stored mass energy quanta within their Matter topology results in raised quantum grounds states that can all be modelled mathematically using Schrodinger's wavenumbers

The simpler geometric charge topology reveals visually how the mass energy content of baryons directly affects the angular momentum and energy levels of photo electrons bound to atomic nuclei, in turn revealing that larger elements be created in two ways - namely by the addition of a neutron to a Hydrogen atom (as classically modelled in modern chemical physics) or through the raising of Planck mass-energy quanta within the deuterium Matter topology itself

Deuterium nuclei without any bound photo-electrons form quantum batteries with EM mass energies can be stored indefinitely without being released.
These nuclei can be arranged atomically in either a series, parallel or empty parallel configuration each of which affects the ground energy states of the respective nuclei created.
Where photo-electrons (quantum rotors) are attracted and bind to these nuclei (quantum batteries) the stored mass energies can then be released in a controlled manner via spectral line emissions, or energy can be added via spectral line absorption.

As photo-electrons are bound to the deuteron nuclei the energy levels are affected directly by the mass energy levels of the nuclei that they bind to, in turn affecting their KEM field energies
The square root linear momentum of KEM field energies normally creates a vector motion but in the case of bound electrons this vector motion is turned into an angular motion resulting in electron spin within the nucleus.

The direction of the spin is always reference with respect to the nuclear magnetic moment resulting in up and down electron spins and their associated magnetic dipole moments

The kinematics of KEM fields provides an easy visual explanation of Newton's 2nd law of motion - namely that deceleration can be seen as the removal of odd number quanta from the squared kinetic energy fields and acceleration can be viewed as the addition of odd numbered quanta to squared kinetic energy fields.

The addition or subtraction of odd numbered Planck quanta from squared energy fields results in changing square root linear momentum for the particles that these fields are associated with - this changing linear momentum over time can be equated to acceleration leading to Newton's formulation of Force = mass x acceleration [F = ma = dp/t = dmv/t]

Using the equilateral geometry of Planck's constant we can now unify classical mechanics with quantum mechanics and reveal the underlying dynamics of relativistic mass energies of motion (as well is providing an electromechanical explanation of inertia in the physics of Matter in motion)

Newton's vector linear momentum [p=mv] forces are revealed to be the geometric square root of Leibnitz's scalar energies [E/mv^2] with their associated inertial mass being a measure of the scalar energies per second [m=E/v^2]

Linear momentum [mv] is differentiated from vector velocities [v] through the equilateral geometry of energy per second [m] in tetryonics, with the total linear momentum of any EM field or system of particles being the vector some of the square root Planck linear momentum of the quanta in the fields comprising the system

Once the equilateral field geometry of KEM fields is revealed it is easy to show that the total energy of the field [E=mv^2] is the result of the kinetic energies [$_{1/2}$Mv^2] plus the magnetic moment [$_{1/2}$Mv^2] of any material topology in motion

This in turn allows for a rigid geometric differentiation of quantised angular momentum [Ω] in Planck quanta, the linear momentum [p] of any system and the classical angular momentum [vector rotation about a point] in physics

These geometric definitions of mass energy momenta in physical systems as portrayed in Tetryonic theory reveal a differing geometric relationship to that commonly portrayed in modern physics]i.e. neutralising right angled Pythagorean triangles]

Additionally Lorentz corrections factors are restricted to planar 2-D mass energies of KEM fields associated to particles in motion where changes of velocity force result in the addition or subtraction of equilateral Planck quanta from the KEM field geometry resulting in the physical expansion or contraction of Planck geometries within the field

Tetryonic theory's geometric definition and application of quantised angular momentum with respect to mass energy momenta in physics allows for the physical modelling of mass energy and Matter at all scales of physics and their unification of classical, quantum and relativistic mechanics

The 'squared' energies of quantum mechanics and statistical distributions of the math associated with quantum mechanics is now revealed in an entirely new light facilitating the macro scale modelling of all hitherto unseen quantum particles and processes.

The geometric relationships between charge, mass geometries and Matter topologies is easily visualised and applied to all physics revealing quantised angular momenta [QAM] to be the hidden variable of Planck's constant [h].......

The modelling of quantised angular momentum as an equilateral geometry allows for the elimination of Heisenberg's uncertainty principle and Bell's inequality from the foundational tenants of quantum mechanics

Both the position and momentum of particles and fields can be now modelled at any stage of a system's spatio-temporal development and evolution using these simple equilateral charged geometries of mass energy momenta

Precise rest mass energies of any Matter topology can be calculated from 1st principles allowing for accurate modelling of all quantum systems and even periodic elements - expanding our knowledge of chemical systems and processes

The Planck-Compton frequency, de Broglie wavelength, absolute rest mass and charge Matter topology of all periodic elements, compounds and molecules can now be calculated with absolute certainty and precision and can be related back to Avogadro's number for all elements in chemistry

The exponential energy levels of atomic nuclei and atomic processes of energy release can also now be shown to be the result of an underlying geometric Planck scale geometry inherent to all mass energy Matter within physics

Einstein's mass energy equivalence formula is shown to be a geometric relationship between measurements of energy per second and inertial mass........ combined with Tetryonics new definition of Matter as energy per second squared we can now show that Einstein's famous formulation is an incomplete formulation of the mass-ENERGY-Matter relationship that applying only to specific processes within our physical universe

The Lorentz corrections on which special relativity is based are shown to be WAVE-length and QAM corrections for the changing physical geometries of scalar mass energies per unit of time in spatial co-ordinate systems (c^2) and that additional time-based dimensional analysis must be taken into account in order to define and differentiate between electromagnetic mass and Matter in physics

The application of squared (equilateral) geometries to physics in the role of quantised angular momentum has been overlooked since the inception of physics itself, but with the inclusion of this geometry a rigid geometric grammar can now be imposed upon the mathematics of physics leading to the correction of many erroneous mathematical assumptions

An exact value from first principles for Planck's constant can be calculated and Avogadro's number can be confirmed and related to the absolute rest mass of hydrogen atoms.

A geometric representation of Coulomb's charged field interactions and the impedance of free space can also be provided for all physical processes allowing for a fast and accurate visualisation of energy mechanics at all scales of physics

Tetryonics theory's equilateral charged mass energy and polyhedral Matter topologies allow for the modelling and differentiation of energy in all its forms within any spatial coordinate system providing a vast improvement over relativity's use of stress energy tensors and non-Euclidean geometries in modelling physical systems

All fields and particles can be defined and differentiated in terms of their charged mass energy geometries and Matter topologies respectively and the differentiation of elemental families into their generations can be easily accounted for through the addition of mass energies of motion to secondary KEM fields associated with each particle grouping

Inertial resistance to force can be modelled and explained through the equilateral geometry of quantised angular momentum when viewed as an electromechanical equivalent to an inductive loop of energy

Electromagnetic inertial mass can now be clearly defined as a measure of the inductive EM energy density of any charged 2D planar Planck geometry in any spatial co-ordinate system of measurement

3D Matter can now be viewed and modelled as the closed topology created by 2D mass energies through charge interactions in any spatial co-ordinate system of measurement per second squared

Additionally physical terms such as 'mass-less' particles are shown to be a misnomer as any field or particle must by definition contain energy per unit of time - and should be more appropriately re-termed Matter-less or weightless particles

Tetryonics theory defines, differentiates and unifies energy in all its forms (mass, Matter & Force) through the equilateral geometry of quantised angular momentum at the quantum level, allowing for the development of a unified field equation that models physics on all scales and reveals a common geometric thread to all the disparate fields of physics that to date have defied unification

Equilateral (SQUARED) energy fields of Planck quanta comprised of statistical distributions of (ODD) transverse bosons and (EVEN) longitudinal photons account for all the quantum mechanical processes of physics including EM field geometries and material particle topologies and electron spin

Principle quantum levels [1st Schrodinger wave-numbers] are shown to be the result of the series addition of deuterium nuclei in atomic elements with their resulting energy levels determining the squared energy levels of bound photoelectron KEM fields – in turn forming the foundation of discrete quantum jumps of electrons bound to atomic nuclei

The bound photo-electron can only transition between allowed squared energy levels permitted by the energy levels of deuterium nuclei to which they are bound and once free from the atomic nuclei the electron can emit or absorbed a continuous spectra of light photons - but while bound to the deuterium nuclei in atoms it can only have specific [squared] KEM energy levels

The complex, asymmetric tri-quark (9 tetryon) Matter topology of baryons directly affects the magnetic moment of protons and neutrons in motion making them considerably weaker than the symmetric axial Bohr magnetron of electrons in motion

As the Bohr magneton of photo-electrons is determined by the squared energies of its secondary KEM field confusion has arisen with respect to the allocation of spins to subatomic particles, Tetryonic geometries now correct for this and suggest that the electron historically viewed as a spin 1/2 particle is in fact a spin 3 particle under the formal definitions of spin rotations i.e. rotating at 120° can bring it back to an identical quantum state as the initial state measured]

Again Tetryonic theory and its energy geometries in addition to explaining and correcting electron spins also shows that the term electron spin can now be taken literally when modelled with Tetryonic geometries to provide an accurate description of the origin of magnetic moments for electrons, in turn undermining the foundational postulate of special relativity that these magnetic moments are the result of the distortion of spherical point charges and that relativistic Lorentz contractions apply to Matter topologies

Dirack's constant, or Planck's reduced constant [$h/2\pi$], is revealed to be a measure of the electric permittivity of a relativistic electron's KEM field, and the measurement of the associated magnetic dipole of the same KEM field results in the mistaken concept of 1/2 spins in the measurement of Bohr magnetons

The magnetic vector created by the Bohr magneton [or KEM field dipole] when measured with respect to the nuclear magneton [Proton magnetic moment] produces either a higher energy [parallel] or lower energy [anti-parallel] state for all atomic nuclei

It is the arrangement of these parallel or anti-parallel magnetic dipoles within atomic nuclei that determines the exact frequency-wavelength (energy level) of emitted spectral lines with the interaction of a particle's magnetic dipole moment with external electromagnetic fields creating Lorentz forces

As electrons and protons have identical quantum Matter topologies [elementary charges] but differing mass energy contents the electron is able to create a much larger secondary KEM field (with associated magnetic dipole moment) for the same velocity [$_{1/2}Mv^2$]

The energy level differences created by the parallel or anti-parallel spin coupling of electrons with protons or deuterium nuclei within atomic elements creates the hyperfine splitting and Zeemen effects observed and spectral lines

As the electron is now shown to be a complex non-spherical particle topology when it binds with protons to form hydrogen the unique Matter topology of both the proton and the electron [Hydrogen] create a small but detectable precession in the motion of the spinning electron as compared to that of the motion of the same electron in a deuterium nuclei

Additionally, as all periodic elements, compounds and molecules are comprised of deuterium nuclei (not hydrogen as currently supposed) the orientation and spin direction of electrons bound within these nuclei results in the diamagnetic and paramagnetic properties of various macro-scale materials

Tetryonics theory reveals that the mass charge ratio is of particles are measure of the constituent mass energy geometries that go into making the particle's final Matter topology that we observe a measure

But unlike the current mathematical approach the geometric approach of Tetryonics reveals the hidden mass energy partitions within the Matter topology of all subatomic particles and that particles such as tetryons (the quantum building blocks of all Matter) are in fact hidden within the debris of current collider results.

4 quantum charge tetryons have the same1/3 partial elementary charge as some quarks, and can be measured as having the same mass charge ratio's as charged leptons such as positrons and electrons in collider experiments.

……….. To be continued [QED, Chemistry, Cosmology, Mathematics, Biology and economic theory]