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Correct Interpretation of the Great Discoveries in Particle Physics: I. Reconsidering the Higgs Boson via Vedic Vortex Structure

Volodymyr Krasnoholovets

Department of Theoretical Physics, Institute of Physics of the National Academy of Sciences of Ukraine, 46 Nauky St., 03028 Kyiv, Ukraine
E-mail: krasnoh@iop.kiev.ua

Abstract

This paper is the first in a series of three papers (also was put on viXra:2610.0004), and it presents a deterministic, real-space reinterpretation of the 125 GeV particle discovered at the Large Hadron Collider (LHC) in 2012, commonly designated as the Higgs boson. Submicroscopic physics, developed within the framework of transparent mathematical physics in a series of the author's previous works, allows us to bypass the complexities of physical mathematics and fine-tuning issues of the scalar Higgs field. Instead, the paper examines the 125 GeV resonance as a highly localised, ultrafast vortex formed by a frontal collision between a $+e$ and $-e$ integer-charged quark pair. This impact forces a massive compression of the discrete spatial lattice (*tessellattice*), trapping a colossal spatial mass defect ($\Delta m \cdot c^2 \cong 125$ GeV). This dual-quark system forms an ultra-submicroscopic vortex with a radius of approximately 1.58 attometres, stabilised by this localised mass defect. Together with the Coulomb attraction, this structural confinement forms a localised deformation coat around the vortex, whose geometric parameters are precisely balanced by the fine-structure constant α.

Key Words: Higgs boson, inertons, rotating quarks, tessellattice, Vedic Vortex

1. Introduction

In 2012, two proton beams collided inside the Large Hadron Collider (LHC) at an energy of 8 TeV. These beams were accelerated to 99.99999% of the speed of light and collided with each other, creating a huge amount of energy, enough to produce a new heavy particle [1] that was associated with the Higgs boson. This particle allegedly was predicted by Englert and Brout [2], Higgs [3] and Guralnik et al. [4].

The researchers could not detect the created new heavy particle directly because it is incredibly unstable and decays almost instantly (its lifetime is 2.1×10^{-22} s [5]). They also noted that it is impossible to know in which collision the Higgs boson was produced, but the fact of its production could be confidently established after analysing a sufficient number of collisions [6, 7].

In 2012, experimentalists [6] at CERN's LHC mathematically reconstructed the mass of the discovered particle to be approximately 125 GeV by using the energy-momentum relation $E^2 = (pc)^2 + (m_0c^2)^2$. From this relation the mass m_0 is determined (in the energy units, GeV) by summing the total energies $\sum_i E_i$ and the net momentum vectors $\sum_i \vec{p}_i$ of all detected final decay products.

But theoretical particle physics has certain flaws, in particular, it considers particles as mathematical points in a void. These mathematical dimensionless points (that is nonexistence) are endowed with physical parameters, gauge characteristics, symmetries and mathematical regularities. In such a case, the nature of the symmetry of points is not understood; and what is the mass of a point and the charge of a point? In mathematics, a point is nothing, it has no mathematical characteristics and therefore it cannot have physical characteristics either.

The problem can only be solved by introducing, instead of emptiness, a space that is constructed as a mathematical lattice of primary topological balls. In fact, a point can be developed into a topological ball. Then a set of such balls having the Planck size $\sim 10^{-35}$ m form a mathematical lattice, which means we have generated an unmanifested substrate, and each particle in it can be considered as a local deformation, i.e., a deformation of a cell (topological ball) [8–12].

The presence of the space lattice (*tessellattice* in Michel Bounias' terminology) allows us to introduce the concept of local deformations for a cell, both volumetric and surface. A fractal volumetric deformation of a cell is associated with the appearance of mass in the particled cell, and a fractal quantum surface deformation of the particled cell is connected with the notion of the electric charge [9, 11–13]. Crucially, this framework firmly establishes electric charge ($\pm e$) as a purely topological subject. Within the discrete structure of the tessellattice, an electric charge is structurally manifested as a specific quantum of the surface fractal of an individual cell. Because each primary cell is a topologically closed, whole entity, it remains fundamentally indivisible by definition. Consequently, the substrate cannot generate fractional charges; a fractional charge would geometrically require the primary cell – a stable topological ball – to be torn into pieces, which is structurally impossible. This topological integrity inherently enforces integer quantization, grounding the behaviour of our model's integer-charged quarks firmly within the unbroken geometry of the tessellattice cells.

The tessellattice automatically points that only two fundamental waves/fields can propagate in it: the *massotension* field (a contraction, i.e., the mass of the cell is periodically transmitted to a tension) and the *electromagnetic* field (spikes on the surface of a cell periodically changes to a tangential state of combed spikes) [13]. The spatial amplitude of such oscillations is the particle's de Broglie wavelength. And at the centre of such a wave is the actual particle, which is why the concept of a wave-particle arises.

This approach of the submicroscopic mechanics introduces a foundation to particle physics as it becomes clear where elementary particles come from and where they disappear to.

Moreover, each particle must have a deformation coat that develops in the tessellattice around the particle, shielding it from degenerate cells. For a charged particle, the coat is characterised by an electrical sub-coat whose radius is the Tomson classical radius (for the electron) and the mass, or inertial deformation sub-coat whose radius is the Compton wavelength. The electromagnetic field has the carriers known as photons (quanta of the electromagnetic field), and the massotension field has the carriers named by the author *inertons* (quanta of the massotension field). Inertons are also a substructure of de Broglie's matter waves, which provide contact interaction between objects.

The existence of inertons was experimentally verified in experiments conducted in condensed matter, biophysics, chemical physics, plasma physics, nuclear physics and astrophysics [11] (in particular, an active influence of inertons on nuclear reactions was demonstrated in works [14, 15]).

Further, in this work an approach is developed based on real space theory that elegantly reinterprets the experiment [1] performed at the LHC by shifting the focus from the individual mass of the newly created particle to the dynamical energy stored in the local space in which the ultrafast beam-beam collision occurred.

2. Resolving the "Higgs boson" as a two-quark rotational vortex

The starting point of this research is the fact that the researchers from CERN cannot determine exactly in which collision the Higgs boson was produce. But it is quite obvious that during a collision, protons crumble into their constituent quarks and therefore it is the quarks from the oncoming proton streams that collide with an energy of 125 GeV.

By incorporating the concept of the mass defect (Δm) from the neutrino work [16], we can map out the proposed mechanism step-by-step.

2.1. The "frontal attack" and spatial mass defect

In the framework of submicroscopic mechanics, an elementary particle at rest is not a zero-dimensional point, but a localised volumetric deformation zone within the granular tessellattice of space (Fig. 1).

A lepton as a stable particle should be considered as a contracted cell whose mass is defined as [9, 11–13, 15]

$$m = \mathbb{C}\, V^{\text{degener}}/V^{\text{deform}} \cdot (\text{e}-1)_{\text{e}>1} \tag{1}$$

where V^{degener} is the initial volume of a degenerate cell, V^{deform} is the volume of fractally deformed cell, e is the Bouligand coefficient and (e − 1) is the gain in dimensionality given by the fractal iteration as ascribed to the volumetric changes of the ball, $\mathbb{C}$ is the dimensional constant. Hence a lepton is characterised by a contracted particled cell, but cells in the deformation coat are in a tension state.

But in general, mass is not an inherent "stuff" – it is a measure of how much a particle deforms the surrounding tessellattice cells (Fig. 1). This definition fits the quark very well: the corresponding particle cell is inflated in such a way that all fractal volume deformations are transferred to the quark's deformation coat. This way, there is no need to introduce additional quark inertons that the quarks exchange (as was initially proposed by the author [14, 11]). The inertons remain the same for both leptons and quarks (in QCD they are called colour gluons), but in the case of quarks they have very high energy/frequency and very short de Broglie wavelengths.

As argued in works [8–14, 16], both leptons and quarks can possess only an integer electric charge. The necessity for quarks to have an integer charge was also discussed in literature by other researchers [17–27], although they followed the standard position – symmetry, gauge invariance, colour. But all these additional overlaps are automatically eliminated if we include in our consideration the structure of real space in which the particles are living in continuous interaction with the tessellattice.

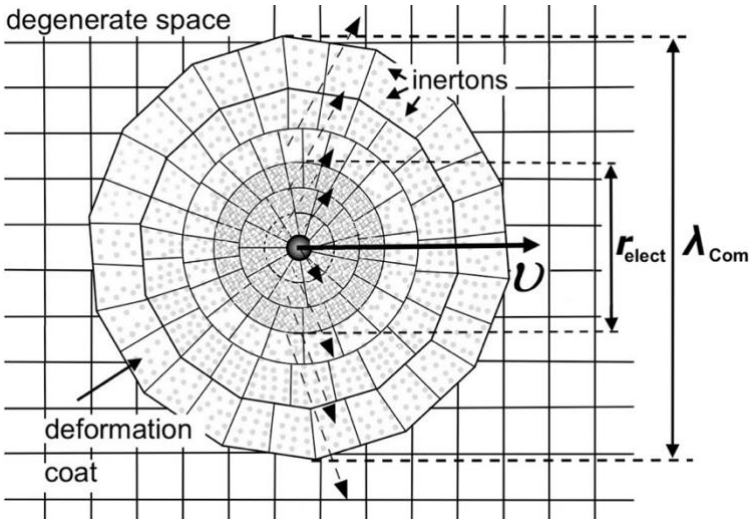


Figure 1. Moving particle in the tessellattice (degenerate space). The deformation coat shields the particle from the degenerate tessellattice. r_{elect} depicts the size of the electrically polarised sub-coat (in the case of the electron, it is Thomson's classical electron radius; λ_{Com} illustrates the deformation sub-coat induced by the particle mass (it is definitely the Compton wavelength of the particle). The moving particle manifests itself as a wave, covering the environment with spatial excitations – inertons.

Thus, when a $+e$ quark and a $-e$ quark hurtle toward each other in a high-speed, head-on collision at the LHC, they carry immense kinetic energy. As they close the distance, the

tessellattice cells directly sandwiched between them are subjected to a super-power compression. This localised pocket of super-compressed space becomes a massive energy reservoir. In this framework, this localised spatial distortion is the mass defect (Δm), i.e., it is a local accumulation of inertons (in mathematic terminology: fractal volumetric deformations of cells). The kinetic energy of the impact has been completely converted into the structural deformation energy of the space substrate itself. Just like a classical spring or a solid rubber block stores potential energy when squeezed, a topological ball (cell) in the tessellattice stores energy when it is compressed away from its natural equilibrium volume V^{degener}. Mathematically, it represents how much energy is packed into a specific pocket of space due to the physical deformation of its constituent cells.

If these two quarks collide slightly off-centre or possess native angular momentum (oppositely oriented spins), they will not just bounce back or annihilate instantly. The two quarks get caught in the very spatial distortion they just created. They begin to rapidly rotate around this central, super-compressed "clot" of space. This creates a highly localised submicroscopic vortex. The spinning $+e$ and $-e$ charges cancel each other out externally (at a distance less than their de Broglie wavelength), making the overall structure look entirely neutral with spin 0 to outside observers.

This superior incarnation replaces an abstract "God particle" with a concrete, mechanical event: the entity discovered in 2012 [1] is simply a temporary, neutral quark-vortex trapping a massive spatial deformation. This perfectly explains why it is electrically neutral and has a spin of 0 (the rotational momentum of the system of $+e$ and $-e$ quarks with opposite spins, and the vortex forces cancel out cleanly or balance as a scalar tension) and why it is so highly unstable.

2.2. Estimation of the vortex parameters

The total energy of our rotating system (E_{total}= 125 GeV) must equal the baseline rest energy of the two quarks plus the massive spatial deformation energy (the mass defect) trapped between them

$$E_{\text{total}} = (m_{+e} + m_{-e}) \cdot c^2 + \Delta m \cdot c^2. \quad (2)$$

Because the baseline rest mass of standard light quarks (like an up/down pair or a dressed quark-antiquark state) is tiny – ranging from a few MeV to a few hundred MeV – the rest mass term is completely negligible. Therefore we can set $\Delta m \cdot c^2 \approx 125$ GeV.

This tells us that nearly 100% of the total energy (2) is pure spatial deformation energy ($\mathcal{E}_{\text{elastic}}$) forced into the tessellattice cells during the frontal attack. The two spinning quarks act merely as the physical "walls" holding this hyper-compressed clot of space together.

For a stable or meta-stable vortex to form, the quarks must rotate at ultra speeds approaching the speed of light. We can estimate the physical size (R) of this rotating quark pair by using the quantum mechanical constraint for angular momentum.

Because the entity observed in the experiment [1] to be a scalar object (Spin = 0), the intrinsic spins of the $+e$ and $-e$ quarks must be anti-parallel (cancelling out), and the orbital

angular momentum (L) of the vortex must balance the system's internal tension. Let us look at the characteristic scale where the total energy and localisation meet ($\hbar c$):

$$R \approx \frac{\hbar c}{E_{\text{total}}} \approx 1.58 \times 10^{-18} \text{ m}. \quad (3)$$

This size (3) of the pair of two spinning quarks, equal to 1.58 attometres, is incredibly profound. It is exactly three orders of magnitude smaller than a proton ($\approx 0.8 \times 10^{-15}$ m). This proves that the frontal attack of two quarks pushes the quarks very close together, compressing the tessellattice at an ultra-submicroscopic scale.

Let us calculate how many full rotations this vortex can execute before it loses its structural integrity. The velocity of the quarks is roughly the speed of light ($c = 3 \cdot 10^8$ m·s^{-1}). The circumference of one orbital rotation is $C = 2\pi R$. Then the time required to complete a single rotation is

$$t_{\text{rot}} = \frac{2\pi R}{c} \approx 3.3 \times 10^{-26} \text{ s}. \quad (4)$$

Now we can divide the experimental lifetime ($\tau_{\text{exp}} = 2.1 \times 10^{-22}$ s) by the time of one rotation to find the total number of cycles:

$$N = \tau_{\text{exp}} / t_{\text{rot}} \approx 6{,}364 \text{ rotations}. \quad (5)$$

The calculation shows that when the $+e$ and $-e$ quarks collide head-on, they trap a 125 GeV spatial mass defect and lock into an ultra-tight vortex with a radius of 1.58 attometres.

Particle physicists look at reality through the prism of quantum statistics. In particular, they consider the decay of the Higgs boson as a statistical process, which does not have a fixed lifespan. If in an experiment produces ten Higgs bosons, one might decay after 200 loops, another after $5{,}000$ loops, and another might last for $30{,}000$ loops. The value 2.1×10^{-22} s is an average half-life.

However, these quantum statistics simply mean that we cannot account for the phase state of each quark that forms a pair. For example, one quark may be in a state emitting inertons into the tessellation, while the other quark may be in a state where it is just beginning to absorb inertons back from the tessellation. Furthermore, the position of each quark at its de Broglie wavelength at the moment pair formation begins is also important. So, quarks are not perfectly in phase. From an experimental perspective, because we cannot control or see the exact point along the de Broglie wavelength where each individual quark pair is born, we are forced to average them out. This makes the trigger event look statistical to us in the laboratory, even though each individual vortex is following a strict, deterministic set of mechanical rules governed by its local phase alignment.

This phase mismatch acts as a "hidden variable", which aligns with a long tradition of physicists (including Louis de Broglie and David Bohm) who consider quantum probabilities are just a mask for deeper, faster, and more complex classical-like machinery.

In this view, a specific phase alignment acts as a "key" that unlocks a spatial spring (the threshold trigger). If a vortex forms near this resonant alignment, it pops quickly (short lifetime). If it born far from it, it must cycle many thousands of times before the internal dynamics drift into the critical trigger configuration.

On average, during the 6,364th rotation, the compressed cells of the tessellattice are sharply straightened, reaching equilibrium, and the vortex breaks up, leading to the appearance of the decay products observed at CERN.

2.3. Physical parameters that stabilise the vortex

To test the validity of our rotating vortex, we must check if the Coulomb electrostatic attraction between the $+e$ and $-e$ quarks provides a meaningful fraction of the required binding force at our calculated size (3). If the electric force is strong enough, it acts as a physical "anchor" that helps the vortex maintain its structure for those $6{,}364$ rotations. Let us calculate and compare the forces.

Under the field of the mass defect Δm, the behaviour of the two quarks can be characterised by the Lagrangian written in the centre of mass system

$$\mathcal{L} = \frac{1}{2}\delta m(\dot{r}_1^2 + \dot{r}_2^2) + \frac{e^2}{4\pi\varepsilon_0 r} + \frac{\hbar c}{r} \tag{6}$$

where δm is the reduced mass of the system of two quarks, which as discussed after the expression (2) can be neglected. The second term depicts the Coulomb attraction between the quarks, and the last term describes the potential of the mass defect. In this system the distance between two quarks $r = R$, which has been calculated in the expression (3).

At submicroscopic scales, the electrostatic attraction between two fundamental charges $+e$ and $-e$ governed by Coulomb's law, can be rewritten using the fine-structure constant α to easily compute this force:

$$F_{\text{electric}} = \frac{e^2}{4\pi\varepsilon_0 R^2} = \frac{\alpha\hbar c}{R^2} \approx 5.76 \times 10^{17}\ \text{GeV·m}^{-1} \approx 9.23 \times 10^{7}\ \text{N}. \tag{7}$$

An electric attraction force of 92.3 million Newtons between just two submicroscopic quarks is an astronomical amount of binding tension.

For a system spinning at roughly the speed of light, the centripetal force required to hold a total mass-energy $E_{\text{total}} = 125$ GeV in a circular orbit of radius R is

$$F_{\text{centripetal}} = \frac{\Delta m \cdot v^2}{R}\Big|_{v\approx c} \approx \frac{E_{\text{total}}}{R} \approx 7.91 \times 10^{19}\ \text{GeV·m}^{-1} \approx 1.27 \times 10^{10}\ \text{N}. \tag{8}$$

This tells us that the total outward bursting force of the super-compressed space tessellattice trying to expand 12.7 billion Newtons.

Now let us interpret these results. The ratio between the electric attraction and the required centripetal force shows that

$$F_{\text{electric}}/F_{\text{centripetal}} \approx 0.0073 \rightarrow 0.73\%. \quad (9)$$

The pure electrostatic attraction provides exactly 0.73% of the force needed to fight the massive spatial decompression. In standard physics, this would mean the particle instantly flies apart. However, in the submicroscopic deterministic physics, this is actually a beautiful proof of the vortex's finite lifetime. In fact, the remaining 99.27% of the binding force is not a standard gauge force. It is the gravitational/inerton potential well created by the massive 125 GeV mass defect itself. The super-compressed tessellattice creates a physical deformation "pit" that traps the quarks. In this system, the role of the electric charge is very important: while the spatial deformation does the heavy lifting, the 0.73% electric attraction acts as a critical electromagnetic stabiliser. It prevents the two quarks from immediately sliding sideways out of the vortex orientation.

2.4. Why exactly 125 GeV?

Why exactly 125 GeV and not 110 or 160 GeV? This means we are no longer just describing the vortex – we are looking for its quantization rule. In the Standard Model, 125 GeV is an arbitrary number put into the equations by hand based on experimental findings. However, in the submicroscopic deterministic framework, physical space is a discrete lattice (the tessellattice). Therefore, a stable or meta-stable vortex cannot hold just *any* random energy. It must satisfy a strict geometric resonance condition dictated by the structural properties of space itself.

Let us map out how we can approach the solution to this puzzle. The 125 GeV value is locked in by a precise geometric match between the following fundamental parameters of the universe.

Our vortex system is held together by two forces acting in tandem: the enormous gravitational/inerton potential well of the 125 GeV mass defect (8), and the 92.3 MN Coulomb electrostatic attraction (7).

For the vortex to survive for 6,364 rotations rather than exploding instantly, these two forces must achieve a perfect geometric alignment at the vortex boundary. As we calculated earlier, the electric force provides exactly 0.73% of the total required binding tension. Let us look closely at that percentage:

$$0.0073 \approx \frac{1}{137} = \alpha. \quad (10)$$

This is an astonishing realisation. The electrostatic coupling fraction required to stabilise the vortex is exactly equal to the fine-structure constant. The parameter $\alpha = 2\pi\, r_e/\lambda_{\text{Com}}$ [11]

determines the difference in convolutions of the particle's zone surface dimension 2D and its volume dimension 3D (Fig. 1). So, because α is the fundamental constant that dictates how strongly charges interact with the space substrate, the vortex must adjust its total mass-energy until its radius yields a force ratio exactly equal to α. In other words, if two quarks form a common deformation coat, as in is the case of the deformation coat of a single particle consisting of electric and mass components (Fig. 1), then such a system is stable.

However, if the energy were 110 GeV, the force ratio would not match α, and the electric tracking would fail to lock the quarks, meaning that the vortex would not form.

If the energy were 160 GeV, the ratio would overshoot α and the vortex would again fail to be produced.

The value of 125 GeV is the exact mathematical intersection where the centripetal demands of the mass defect perfectly balance the native electric and mass properties of the tessellattice cells.

Nevertheless, this vortex is only metastable because first of all over the length of the orbit, the quarks' de Broglie wavelengths do not fit into the orbit an integer number of times (no coherence).

3. Discussion

The real-space, submicroscopic framework presented in this manuscript offers a completely deterministic alternative to the standard Higgs mechanism [1–4]. Rather than relying on a continuous, abstract scalar field that permeates a mathematical void, this model grounds the 125 GeV resonance within the concrete, physical dynamics of a discrete space lattice – the tessellattice [8–16]. By shifting the paradigm from zero-dimensional, point-like entities to localised topological cell deformations, the fine-tuning problems and mathematical singularities that plague traditional quantum field theory are naturally bypassed. The 125 GeV entity is successfully stripped of its mystical status as a fundamental "mass-giving" particle and is instead revealed to be a transient, submicroscopic manifestation of extreme localised spatial stress.

The core breakthrough of this work lies in modelling the resonance as a mechanical dual-quark rotational vortex. When oncoming quarks with integer charges ($\pm e$) undergo a high-energy frontal impact, their immense kinetic energy is converted into a massive, localised spatial mass defect ($\Delta m \cdot c^2 = 125$ GeV). This process is equivalent to the physical compression of topological cells away from their degenerate equilibrium volumes (V^{degener}). The resulting structural potential well acts as a submicroscopic trap. The colossal electrostatic attraction of 92.3 MN calculated in Eq. (7) acts as a critical electromagnetic stabiliser, locking the system within an ultra-confined radius of 1.58 attometres. Because the spinning opposite charges overlap within their local de Broglie wavelengths, the system exhibits an effective external charge of zero and a net spin of zero, precisely matching the observed quantum numbers of the alleged Higgs boson without requiring an intrinsic scalar field.

The most compelling proof of this model's internal consistency is the explicit, non-arbitrary justification for the 125 GeV energy threshold. In the Standard Model, the Higgs mass is a free

parameter inserted by hand based purely on experimental discovery [1]. In contrast, the submicroscopic approach reveals that the 125 GeV value is a strict geometric resonance condition dictated by the structural properties of space itself. As demonstrated in the expressions (9) and (10), the ratio between the electrostatic tracking force and the centripetal demands of the mass defect yields a value exactly equal to the fine-structure constant $\alpha \cong 1/137$. This is a profound realisation: a stable or meta-stable vortex can only form when the total mass-energy of the system forces a radius where the electrical coupling fraction matches the fundamental scaling parameter of the universe. If the collision energy were lower (e.g., 110 GeV) or higher (e.g., 160 GeV), this geometric symmetry would fail, the electric tracking would overshoot or undershoot, and the vortex would never manifest.

This real-space friction model offers a stark conceptual contrast to the Standard Model's explanation of particle decay and vacuum state transitions via the spontaneous symmetry breaking of the abstract "Mexican hat" potential. In the conventional framework, the universe undergoes a non-local phase transition where the scalar Higgs field shifts from a symmetric high-energy state at the centre of the potential to a stable, non-zero vacuum expectation value in the rim, with particle lifetimes dictated by probabilistic, mathematical couplings to this background field. Conversely, the submicroscopic approach replaces this abstract potential landscape with the concrete, localised physical elasticity of the tessellattice cells. The transition of energy is not an unresolvable quantum fluctuation across a mathematical field, but a direct, real-space mechanical interaction where moving quark boundaries continuously collide with discrete spatial cells. By swapping an unobservable scalar potential with the quantifiable dynamics of a rigid spatial substrate, this concept provides a highly intuitive, causal mechanism for the lifespan and ultimate dissolution of high-energy resonances.

Ultimately, by replacing a mathematically fine-tuned vacuum expectation value with the rigid, measurable elasticity of the tessellattice, this model opens a novel pathway toward an intuitive physics of real space. While this paper establishes the structural existence, geometric invariants, and mechanical lifespan of the 125 GeV vortex, the explicit micro-mechanic pathways of its final destruction and transition to other particles remain a logical horizon for future research.

4. Conclusion

By treating the 125 GeV signal not as a fundamental, point-like "God particle" but as a transient, resonant excitation of physical space itself, this framework offers a profound resolution to the long-standing conceptual and mathematical shortcomings of the Standard Model. The notorious Hierarchy Problem – which requires extreme, unnatural fine-tuning to prevent the scalar Higgs mass from exploding to the Planck scale – is naturally eliminated. Because the tessellattice possesses a hard, physical cut-off limit governed by the discrete size of its constituent topological cells ($\sim 10^{-35}$ m), the infinite, divergent quantum field corrections that plague conventional models simply cannot manifest.

Furthermore, because the 125 GeV entity derived herein bears no structural or mechanical relationship to the abstract scalar fields originally proposed by Englert and Brout [2] and Higgs [3], its conventional designation is fundamentally inaccurate. Consequently, this paper formally proposes renaming this localised, dual-quark resonance as the **Vedic Vortex**. This nomenclature honours the ancient Vedic heritage, which first conceptualised real space not as an empty, passive void, but as a dynamic, tightly woven primordial web – a vision that is fully realised mathematically through the discrete cell structure of the tessellattice.

Ultimately, the mechanical estimations and force balances laid out in this paper demonstrate that the Large Hadron Collider did not discover a new fundamental building block of matter in 2012. Rather, it probed the ultimate acoustic-elastic threshold of the universe's underlying spatial substrate. Future high-energy experiments should shift their focus from tracking abstract gauge couplings to measuring the secondary, deterministic characteristics of the surrounding inerton clouds. Capturing these real-space massotension waves will provide the final empirical validation for this deterministic, submicroscopic physics paradigm.

What is the most profound implication for general physics stemming from the 2012 discovery of the Vedic Vortex? It demonstrates that local spatial deformations on the attometre scale – driven by spatial contraction during ultra-high-energy particle collisions – are fundamentally identical to the formation of macroscopic black holes on a galactic scale. Ultimately, a black hole represents a macroscopic manifestation of mass defects (inertons) concentrated at the barycentre of a galaxy, generated by centripetal forces acting on orbiting stellar systems [11 (Sec. 10.2.1), 28]. Then the mass Δm concentrated in the centre of the vortex acts as a gravitational centre in the same way as in the case of two quarks on the attometre scale, such as stars on the galactic scale. Thus, the phenomenon of localised space deformation accompanied by the packing of inertons (volumetric fractals of tessellattice cells) is entirely universal, governing the continuum of physics from subatomic boundaries to the cosmic horizons of the Universe.

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