ABSTRACT
The Riemann Hypothesis is a proposal given by Bernhard Riemann in 1859 that the non-trivial zeros of the Riemann zeta function all have real part \( \frac{1}{2} \) or .5. The conjecture is that all the non-trivial zeros lie along the critical line.

This paper serves to put forward a solution to the Riemann hypothesis that proves that the non-trivial zeros of the Riemann zeta function do indeed lie along the critical line. This solution has arisen as a result of over fifteen years research and analysis of the science of Consciousness as expounded in both Vedic Science and Kashmir Shaivite texts. These texts, written by ancient scholars, have much to offer current science and its multiplicity of conundrums.

The solution proposed is based on the geometry of a circle and its inner zero (centre) and the outer zero (the conjunction of the radius with the circumference). It is explained that the Riemann zeta function is a representation of the identity element of .5 and that this identity of .5 is the conjugation point of 0 and 1. It is also explained in relation to the concept of the cosmos being the shape of a sphere and the fact that a radius is always half the diameter.

Detailed explanations are provided as to how the Riemann zeta function operates in the Unified Standard Model (i.e. the model of the cosmos as per Munns Unified Field Theory) are also given. The content of the paper is drawn from the text *Principia Unitas – Volume IV – On the Origin of Quantum Mechanics* which explains how each of the twelve fields of M-theory is driven by particular mathematical functions as operators. The section on the Riemann zeta function represents the discussion on the mathematical operator of Field 7 of the Unified Standard Model. Below is a diagram of the Unified Standard Model (cosmological version) for reference during this text:
RIEMANN ZETA FUNCTION – FIELD 7 of the Unified Standard Model

Of all the mathematical functions, I think the Riemann zeta function is both the most complex and hotly debated. In mathematical terms, the Riemann zeta function is related to its zeros and their relation to the distribution of prime numbers. A prime number is a number that can only be divided by one and itself. It is the Riemann zeta function that links the integer of one to prime numbers. The mathematician, Leonard Euler was able to explain how the Riemann zeta function worked but not how. Today, the question of how it operates it is still cloaked in mystery.

Before I begin I would like to explain about the terms Q1(0), Q1(1), Q2 and Q3 that are written in this text. The “Q” stands for “universal quality” and represents the set of discrete properties that are attributed to each of the four aspects of the three unitary symmetry groups. Again this deeper appreciation of unitary symmetry has arisen from my reading of Vedic Science, where the three cosmic principles of vata, pitta and kapha can be directly attributed to each of the three unitary symmetry groups of U(1) vata, SU(3) pitta and SU(2) kapha. This correlation has meant that I have been able to understand the properties of each of the unitary symmetry groups and thus perceive much more about the true nature of different physical laws in the cosmos. Here are the correlations between unitary symmetry group and universal quality that will be helpful to refer to when reading this text:

\[
\begin{align*}
U(1-0) &= Q1(0) \\
U(1-1) &= Q1(1) \\
SU(3) &= Q2 \\
SU(2) &= Q3
\end{align*}
\]

I propose that the Riemann zeta function is a representation of the identity element (neutral element of the binary code) – the .5 of the universe and how this relates to the number 7. If we can imagine that, in the Unified Standard Model, the sphere of Field 12, which is also the sphere of the universe, has the radius of 3.5 proportional units (as explained in Principia Unitas – Volume III - The Universal Mechanism), then we can know that \(3.5 \div .5 = 7\). Since the radius of Field 12 is the length of the triple phasor of the three states of Absolute Zero that sweeps outward from Field 12 (to manifest the cosmos as the universal triple harmonic oscillator that it is), then it can be appreciated that the halfway point of the radius (i.e. between 0 and 1 at Field 12) becomes SU(3)/Q2 or the \(y\) axis of the universe, which is itself related to the phenomenon of both action and power. Here is a diagram of this:

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1 The proposal that there are four aspects of unitary symmetry and not just three as is currently understood, is one of the foundational principles on which Munns Unified Field Theory rests. It is explained that since the unitary symmetry group of U(1) is based on the circle group, then it is implicit that the circle itself has two aspects to it – an inner space (empty) and the outer boundary or circumference (a line). These two states of inner and outer topologies of the circle can be perceived to be the states of 0 (inner space) and 1 (circumference). Thus it is stated that the inner space of the circle represents the state of U(1-0) and the outer boundary line/circumference of the circle represents the state of U(1-1). It is the proposal of the binary nature of a circle that leads to a deeper understanding of quantum physics that is explained in the six texts of Principia Unitas.
The Riemann zeta function concerns the axis of imaginary numbers (SU(3)/Q2). In Fields 8-1 of the Unified Standard Model, it is the $y$ axis of Euclidean space. It represents the vertical axis or cosine of the triple phasor that emanates from Field 12 or the state of Absolute Zero. This is why it is imaginary because, just like lightning (cosine – SU(3)) is the twin of thunder (sine – SU(2)), the Riemann zeta function is not a material phenomenon – it embodies the imaginary plane. It is not a physical or material representation; it is the mode of action or the exponent function. It is the function of power itself. Here is another diagram of the Riemann zeta function.\(^1\)
In the above diagram it can be noted that the zeros occur on the y axis and that there are two types of zeros:
0 = 0 = steepest gradient – arise from a zero
0 = ∞ = 0 = arise from infinity
I propose that since .5 represents the amalgamation of zero and one, then the two types of zeros arise from the binary nature of the radius of the universe (i.e. the 0 and 1 of Field 12). Thus:
0 = X₀, Y₀, Z₀ = ∞ = centre of Field 12 = 0 = Q₁(0) = Absolute Zero
0 = 1 = point where radius of Field 12 meets the circumference = “outer zero” = 1 = Q₁(1)

Both the above zeros are zero, but emerge from different locations in Field 12. This is one of the aspects of the Riemann zeta function that I wanted to explain – the differentiation of the two types of zeros. Again, the binary function of 0 and 1 or Q₁(0) and Q₁(1) are present even in the Riemann zeta function. The .5 aspect of the Riemann zeta function represents the third type of zero or “nothing” that arises from the conjugation of the zeros of 0 and 1 – i.e. the zero of 0:1. This is the Riemann zeta function. Just as in mathematics there are three types of zeros and in physics there are three types of nothing, it can be demonstrated via the above diagram how these three types of zero or nothing arise – i.e. from the three states of Absolute Zero of Field 12.
7 and the Riemann zeta function

Another aspect of the Riemann zeta function is its relationship to the number 7. Since the U(1)/Q1 fields (i.e. information fields) of the universe are related in the Unified Standard Model by Fields 10, 7, 4 and 1, then it can be shown that Field 7 governs information. I propose that the Riemann zeta function serves to allow information of the radius of Field 12 (.5) to travel throughout the Unified Standard Model right through to Field 1. Since Field 10 represents the inversion of Field 12 (due to Perturbation Principle or Big Bounce), the .5 or ½ of Field 12 becomes inverted at Field 10 as the number 2. This 2 represents the principle of action of the binary code of Field 12 (.5). It can be noted that the difference between each of the prime numbers (i.e. when a prime number is subtracted from its next higher prime) the result is always a number divisible by 2. This is because the number 2 is one of the four numbers of the Riemann zeta function (the others being 0, 1 and .5). These four numbers are at the heart of the quantum field since they represent the quaternion unit of the four quantum numbers.

Thus the mechanism by which the Riemann zeta function relates zeros to prime numbers is founded on the identity element (or neutral element) or the .5 of the universe. This is the reason why an identity element leaves elements unchanged when combined with them4 - i.e. due to its neutrality. I propose that in Unified Field Theory integers are U(1)/Q1, prime numbers are SU(3)/Q2 and fractions are SU(2)/Q3, each representing the z, y and x axes of Euclidean space respectively. Thus when any integer number (Q1) or fraction (Q3) is multiplied by zero (Q2), it remains unchanged due to the conjugatory origins of 0 and 1 of the zero (.5). The Riemann zeta function is the action principle of the binary function. It is SU(3)/Q2. It integrates the .5 into the 1. Thus when any action or waveform (Q2) is performed on either information (Q1) or particle (Q3), both the information and structure of the particle remain unchanged due to the zero aspect of .5 - Q2. However, the zero aspect of Q2 is based on .5, not on the zero aspects of Q1(0) and Q1(1). Thus it can be seen that the Riemann zeta function represents the conjugation between Q1(0) and Q1(1).

An identity element is usually two sided – it has a right side and a left side. This represents the Q1(0) and Q1(1) origins of Q2. As mentioned in the text Principia Unitas – Volume III – The Universal Mechanism5, Q2 governs addition and multiplication. The additive identity is classed as 0 (.5) or Q1(0) and the multiplicative identity is classed as 1 or Q1(1). Here is a table showing the correspondences of the Riemann zeta function with their mathematical matrices and identities:

<table>
<thead>
<tr>
<th>Q1(0)</th>
<th>Q1(1)</th>
<th>Q2</th>
<th>Q2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>.5</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>cross product of vectors</th>
<th>m x n matrices = matrix of all zeros</th>
<th>n by n square matrices = I_n (matrix with 1 on diagonal &amp; 0 elsewhere)</th>
</tr>
</thead>
<tbody>
<tr>
<td>additive</td>
<td>multiplicative</td>
<td></td>
</tr>
<tr>
<td>positive natural numbers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>matrix of all zeros</td>
<td></td>
<td></td>
</tr>
<tr>
<td>no identity element</td>
<td></td>
<td></td>
</tr>
<tr>
<td>right &amp; left</td>
<td>left</td>
<td>right</td>
</tr>
<tr>
<td>Z^j axis</td>
<td>Z_j axis</td>
<td>-y axis</td>
</tr>
<tr>
<td>-k/k axis</td>
<td>j/-j axis</td>
<td>-i axis</td>
</tr>
<tr>
<td>m_s</td>
<td>m_l</td>
<td>-n = -ve charge</td>
</tr>
<tr>
<td>intrinsic angular moment</td>
<td>total angular momentum</td>
<td>orbital angular momentum</td>
</tr>
</tbody>
</table>

Thus it can be shown from the above table that the additive and multiplicative functions of the Riemann zeta function are the mechanisms by which the universal quality of SU(3)/Q2 is able to have both positive and negative values or a right and left handedness. This dual functioning of the
Riemann zeta function ensures the correct functioning of SU(3)/Q2 even during its helical spiralling motion throughout the universal mechanism.

SU(3)/Q2 is itself a two-sided identity in that it has the ability to be both right and left sided identities (e.g. positive and negative electrical charges) which makes it possible for Q2 to perform its function of creating unity in diversity by being able to connect up Q1 (information) with both Q2 (action) and Q3 (particles). It is also able to have no identity element (.5) which represents the 0 aspect of its Q2 state. Armed with these properties, Q2 is able to act within all states of the quantum and universal mechanisms. Since the Riemann zeta function represents Q2, it can be seen on the diagram below that it represents the mode of action itself in the universe and how it both interacts with Q1 (information) and Q3 (particles). Here is a diagram of the Riemann zeta function:

Riemann zeta function $\zeta(s)$ in the **complex plane.** The color of a point $s$ encodes the value of $\zeta(s)$: colors close to black denote values close to zero, while **hue** encodes the value's **argument.** The white spot at $s = 1$ is the pole of the zeta function; the black spots on the negative real axis and on the critical line $\text{Re}(s) = 1/2$ are its zeros. Values with arguments close to zero including positive reals on the real half-line are presented in red.

![Figure 5 - The Riemann zeta function – Field 7 of the Unified Standard Model](image)

In the above diagram it can be seen that the red shaded area represents the Q1 & Q2 of Fields 12-7 (i.e. pure information and action respectively). The multi-coloured circle in the centre of the image represents Field 7 (i.e. the field where light becomes linearly polarised and the phenomenon of colour arises). Field 7 governs the function of linearly polarising the unpolarised light of Field 8 into its three different topological partitions of a particle (i.e. information, wave and particle manifolds). Note that the black shaded area under the multi-coloured circle represents the numbers close to zero. This represents the Higgs event of Field 6, where electroweak symmetry breaking occurs at the zero point of the four quantum axes – i.e. the point where the $-k/k, -j/j, -y/y$ and $-x/x$ axes converge). This represents zero materiality, or the area of maximum decay – e.g. bottom and top quark of Fields 5 and 6. The multi-coloured lines on the $y$ axis represent Q2 or QCD or the strong force in the quantum mechanism. The white spot S=1 (i.e. the pole of the Riemann zeta function), represents Field 1 or the
base of the universal harmonic oscillator from which Q2 is then either earthed/absorbed or reflected back up to Field 12 again at Field 2 (element of water).

Here is another diagram showing the Riemann zeta function from a SU(3)/Q2- action perspective:

In this diagram it can be seen that the red area of the Riemann zeta function represents Q1 and Q2 (action & information). The multi-coloured area represents Q1 + Q2 = Q3 (information + action = particle/materiality). Since one of Field 7’s functions is to differentiate EMR into its three separate quantum states of information, wave and particle, then this diagram of the Riemann zeta function shows how this occurs. Field 8 (Q3) separates light into its seven spectral colours of visible light or frequencies of energy levels of light/Consciousness (Fields 7-1) via the 1st order linear Stark Effect and combines this with the information received from Field 10 (Q1) via Field 9 (Q2). Q1 + Q2 = Q3 or information + action = particle. Thus it is Field 7 that serves to provide the information (Field 10-Q1) and action of the linear Stark Effect (Field 8-Q2) into the material plane of information - Field 7. No mass is created at Field 7 (colour = violet) due to its high frequency, but at Field 6-1 information (Q1) and action (Q2) can be combined to form particles (fermions – Q3) in the material quantum field, due to its lower vibrational frequency and thus higher magnetic resonance causing the aggregation of particles.

It is at Field 6 that the electroweak symmetry breaking occurs giving rise to the independent forces of electricity and magnetism on the material plane and also the strong and weak forces at the quantum level. This electroweak symmetry breaking process can be seen in the diagram two diagrams above to take place under the coloured central circle. The area of black represents the area of zero colour where the colours of the weak force (involved in particle decay) of cyan, magenta and yellow combine to form the subtractive process of colour to form the absence of colour or black. The areas of white represent the areas of the strong force where the strong force colours of red, green and blue combine in the additive process to form the confluence of all colours – white.

Another lens I would like to perceive the Riemann zeta function via the number 7 is through the Greek numerical system in which “zeta” represents the number seven. Here is a list of divisions of the number seven representing the 12 fields of the Universal Standard Model:
7 ÷ 12 = .58 ≈ .577 = Euler-Mascheroni constant = 0 of binary code = Field 12
7 ÷ 11 = .63 = Field 11 difference between 7 ÷ 11 & 7 ÷ 12 = .05 x 10 = .5 = Euler-Mascheroni constant = 1 of binary code
7 ÷ 10 = .7 = Field 10 = Embree-Trefethen constant
7 ÷ 9 = .7777 = Field 9 = Embree-Trefethen constant x 10 ÷ 9
7 ÷ 8 = .875 = Field 8 = Brun’s constant for pure quadruplets
7 ÷ 7 = 1 = Field 7 = unit = linearly polarised light
7 ÷ 6 = 1.16 = Field 6 = 1.16 ÷ 2 = .58 ≈ Euler-gamma constant
7 ÷ 5 = 1.4 = Field 5 = √2 = Pythagoras’ constant
7 ÷ 4 = 1.75 = Field 4 = √3 = Theodorus’ constant
7 ÷ 3 = 2.3 = Field 3 = 2.3 x 2 = 4.6 = Feigenbaum constant
7 ÷ 2 = 3.5 = Field 2 = radius of sphere of Field 12
7 ÷ 1 = 7 = Field 1 = mirror of Field 7 - information

In the list of numbers above, it can be noted that the numbers above the number 7 or Field 7 are not whole numbers, but that at Field 7, the number 1 is 1. This represents the point at which the three universal qualities combine to form the first type of matter – the Bosé-Einstein condensate. Field 7 is also the point at which unpolarised light becomes polarised. Here the three aspects of light of Pure Consciousness become solidified into matter or unitised via polarisation (i.e. an information-wave-particle triplet template). It is at Field 7 that the first charged leptons arise of e−, μ−, τ−. The remaining six fields represent the increasing density of particles and decreasing coherence of information, resulting in the most dense or heaviest field, Field 1, earth element, electron and up quark being at the base of the quantum harmonic oscillator. This increasing density is reflected in the incremental decrease in informational coherence.

Interestingly enough, there are some mathematical constants that when divided by the number seven provide points for consideration:

\[
\begin{align*}
\pi & \div 7 = 2.228 = 1/10^{\text{th}} \text{ of the circumference (circumference = field limit = Q3-Field 5) of 22 units of Field 12} \\
e & \div 7 = 2.57 = \text{Feigenbaum constant = bifurcation constant} \\
\sqrt{2} & \div 7 = 4.95 \approx 5 \\
\sqrt{3} & \div 7 = 4 \quad = \text{Field 11 (3, 4, 5)} \\
\sqrt{5} & \div 7 = 3.13 \approx 3 \\
12 & \div 7 = 1.7 \\
7 & \div 4 = 1.7 
\end{align*}
\]

= Theodorus’ constant = the diagonal space of the unit cube = √3 = 1.7

I do believe that the number seven transforms the building blocks of the causal universe (3, 4 and 5 of Field 11) and (0, 1, .5 and 2) of Field 12 into the building blocks of the manifest universe – i.e. via √2, √3, and √5. It is through the power of Field 7 that the building blocks of light (information, wave and particle) work integrably together to weave the threads of √5 (Q1), √3 (Q2) and √2 (Q3).
**II and Riemann Zeta**

If we presume that the universe is a sphere, we can understand that \( \pi \) represents the ratio of the circumference of the universe to its diameter. Given that the diameter of an object is twice its radius, the radius is obviously half the diameter. A sphere with a diameter of unit 1 can have its circumference calculated thus:

\[
\text{Circumference} = 2 \times \pi \times r = 2 \times \pi \times 0.5 = 3.14 - \text{this is the value of } \pi
\]

The improper fraction of \( \pi \) is 22/7. This means, in universal terms, that the ratio of the circumference of the sphere of the universe to its diameter is 22/7.

So if the circumference of the sphere of the universe = 22 and the diameter of the universe is 7, then the ratio between the two is \( \pi \).

In the above example, if the diameter of the universe is said to be 7 units, then its radius would necessarily be 3.5 units. It is precisely this relationship between a sphere with diameter of 7 units and its radius being 3.5 units that I propose has a direct relationship to the Riemann zeta function, since it is the fact that the radius is exactly half of the value of the diameter, and it is this value of 0.5 that passes through the centre of the sphere at the zero point. I propose that it is precisely the fact that the radius emerges from the centre point of the sphere that is the cosmos that renders the non trivial zeros of the Riemann zeta function to be zero, since the radial point at the circumference of the cosmic sphere originates from its zero point. Here is a diagram explaining this:

![Diagram of Pi and Riemann Zeta Function](image)

**Figure 7 - Relationship of Pi to Riemann zeta function in cosmic sphere diameter 7 units**

The function of the Riemann zeta function is to allow information (Q1) of Field 7 from Field 10 to flow to Fields 4 and 1 (both Q1 fields) from Field 7. It is the function that co-ordinates information with action and particles on the physical plane (i.e. Fields 6-1). In the quantum mechanism it provides information from Field 7 to all fields below (i.e. it contains the master plans or information
of all quarks and leptons in Fields 6-1). It relates to the charm quark of Field 4 and its delta function gives informational symmetry to the alpha function of Field 1 to provide information to the up quark to manufacture particles.

Essentially, what I am trying to explain is that the Riemann zeta function describes how Field 7 transforms the building blocks of Q2 (0, 1, .5 and 2) into the material universe. It does this by the oscillatory nature of waveform (Q2) into electricity and colour charge (QCD) and the strong force.

Prime Numbers and Riemann Zeta Function
Since the Riemann zeta function is concerned with the relationship between zeros and the distribution of prime numbers (related to 1) I propose that it is the Riemann zeta function that distributes primes in an oscillatory pattern (Q2). Below is a plot diagram I have made using the difference between each prime number. I have discovered that at least there is a pattern to the number 53 and then this pattern almost reverses to 103. The pattern is a bit different between 83 and 89 and I am wondering if this could be due to the influence of the number 88 – which has a double Q3 effect (CP violation!) on the patterning.

![Plot diagram](image)

Figure 8 - Harmonic oscillation of prime numbers - 52/104

The number 52 represents the number of weeks in a year formed as a result of the amount of time it takes for the earth (Q1) to rotate in time (Q3) around the sun (Q2). Similarly the graph changes shape after 103 (just around double 52 x 2 – 104). So it seems to have a relation to 52 somehow. If the upper plot were to be seen to be the upward path of the cosmic harmonic oscillator (Q2) to Field 12 and the lower plot to be the downward path of the harmonic oscillator to Field 2 (Q3), then the Riemann zeta function can be seen to be perceived in its true light – i.e. the path of the oscillatory motion of the .5 of Field 12 in the universal harmonic oscillator. I haven’t had time to work out what happens after 103… there’s a huge shift at 127 (from 113) and I’m not sure what that’s all about but it is the first difference of 14 between numbers from all the previous prime numbers before it (all of them are either 2, 4 or 6).

It is interesting to note that the two Mayan civilisation calendars Tzolkien (260 day or 9 moon calendar = SU(2)/Q3) and the 365 day (or 12 moon solar calendar = SU(3)/Q2) interlock and coincide every 52 years. A complete Venus cycle (Venus = Q2 - .5) is calculated at 104 years (2 x 52 years). Thus I am proposing that the pattern of prime numbers (Q2) 53/103 is related to the pattern of the
Venus (Q2) cycle which forms a pentagonal orbit around the sun – both are Q2. Note too that the angle between the two hydrogen (hydrogen = SU(3)/Q2) atoms in water is 104.5° which is also close to the proportioning of 52 x 2.

All prime numbers are naturally divisible by .5. This is the connection of prime numbers (Q2) with integers (Q1). This is the function of the Riemann zeta function since the Riemann zeta function represents the relationship between 0 and .5 or the centre of a sphere and its radius. The Riemann zeta function is also the connection between integers (Q1) and fractions (Q3) since being represented as both 2 and .5, Q2 is able to connect both. In this way the Riemann zeta function (.5) can be seen not only to be the connection between integers and primes as well as integers and fractions, but also demonstrates the cohesive properties of Q2 between information (Q1) and waveform (Q2) as well as between information (Q1) and particles (Q3). Here is a graph showing this:7

The other interesting fact about the prime numbers is that when they are divided by e (Euler’s number of 2.7) they all come out in repetitive numbers. Here are the first few prime numbers plus a few others to demonstrate this patterning of repetition:

\[ \begin{align*}
  .5 \div e &= .1851851 \\
  1 \div e &= .370370 \\
  2 \div e &= .7407407 \\
  3 \div e &= 1.111111 \\
  5 \div e &= 1.8518518 \\
  7 \div e &= 2.592592 \\
  11 \div e &= 4.074074 \\
  13 \div e &= 4.814814
\end{align*} \]
This repetitive patterning of numbers related to Q2 (Euler’s number) and prime numbers (also Q2) shows the resonance of Q2 between both of them. Since this repetitive patterning is a type of recursion (Q1), it also demonstrates the fact that there is an informational similarity between Euler’s number and prime numbers. The fact that $3 \div e = 1.11111$ is also related to the fact that the Riemann zeta function (Q1 & Q2) is related to the gamma function of the polygamma function (3) of Field 1 (Q1) which integrates the three universal qualities into particles. This association can be seen in the connection between the Euler-Mascheroni constant (.577) and the Riemann zeta function (.5). The Euler Mascheroni constant is used in combinatorics as it is the “inviting difference between the harmonic series (Q1 - .09) and the natural logarithm (Q2/Q3)”.

This is the cohesive aspect of the Riemann zeta function and of Q2 that it unifies and creates a connection between Q1 and Q3 whilst still maintaining the differentiation between the two. The Riemann zeta function actually relates to both Q1 and Q2. It is essentially Q1 (information) in its 0 form, but also functions by acting in its .5 form on this information and sending it through Fields 7-1.

Like all functions, the Riemann zeta function can be represented on the Absolute, imaginary and real planes. Here are the graphs showing these:

![Figure 10 – Plot graphs of the universal qualities of the Riemann zeta function](image)

Note that the Absolute (Q1 graph – far right) shows the information (orange) as flowing evenly throughout (i.e. homogenous distribution of information = Q1(0)) but becomes attenuated at 20 (x axis – Field 6). The white areas in this graph represent the additive process of Q2 whereby the red, green and blue of QCD are added together to make white or the confluence of colour and action = pure light. The orange section represents the right and left or two-sided identity of the Riemann zeta function (2 – Q1(1)). The white areas represent the .5 or 0 identity of Q1(0) of the Riemann zeta function or the no identity element.
In the imaginary (Q2 – centre graph above) the helical nature of the left and right identities of aqua and blue (.5 and 2) can be observed. The two dots in the centre of this graph (yellow and blue) represent the Q1 (or 0 and 1) of Field 7 of the Riemann zeta function. The polarising effect of EMR at Field 6 can be seen below these two dots. The white areas of no identity element of .5 (Q1(0)) as in the Absolute graph can also be seen.

Finally the real (Q3 – far left graph) shows the pattern of Q2 on odd and even numbers (e.g. green = 1, 4, 6) The three blue streaks on the right represent, I believe, the three aspects of Q1, Q2 and Q3 that each represent information, wave and particle of Field 7 or the precursors to the red, green and blue of QCD as in the fields of Field 1 (red), Field 4 (green) and Field 6 (blue).

Another aspect of the Riemann zeta function in relation to the Unified Standard Model is in relation to Field 12. If the radius of the sphere of Field 12 (i.e. unified field or cosmic field) is perceived to be 3.5 units, then its diameter is naturally 7 units. The fact that the proportional value of the diameter of the sphere of the universe (Field 12) is 7 units is important in relation to the Riemann zeta function, since its .5 aspect represents 1/7th of the diameter of the sphere of the universe.

This relationship between:
7 = diameter – and
.5 = 1/7th of radius of 3.5
is important for the material universe, since I propose that the seven spectral colours of light, seven elements, seven days of the week, seven crystal classes, seven series in the periodic table and seven chakras all represent a .5 or 1/7th section of the radius of the universe. It is the Riemann zeta function that distributes the latent information of Field 12 (.5 and 2) throughout its manifest form of the objective universe of Fields 10 to 1.
Functions of Riemann Zeta in the Unified Standard Model

I propose that the Riemann zeta function works in the Unified Standard Model in the following way:

Field 12 = $Q_1(0) = 0 = \frac{1}{2}$ or $\frac{1}{2} = \text{creative principle/information} \rightarrow \text{latent form of Riemann zeta function}

Field 10 = $Q_1(1) = 1 = 2 = \text{inverse of } \frac{1}{2} = \text{creative principle} = \text{iota function}

Field 7 = $Q_1$ of $Q_1 = 0, 1 = \text{the } \frac{1}{2} \text{ of Field 12}$

Field 4 = $Q_2$ of $Q_1 = \text{evenly distributes Field 7 information, monitors and maintains information of system via delta function}$

Field 1 = $Q_3$ of $Q_1 = \text{receives } Q_1(0) \text{ symmetry information of } m_4 \text{ from Field 4; gamma function to particle in fermion creation; alpha function to integrate information of } Q_1(0) \text{ or spin}$

I further propose that it is through the mechanism of the complete graph (7 vertices) that the information in Field 7 is linearly transformed to Field 4. There is a communication channel between Field 7 and Field 4 – i.e. between the imbalance of Field 4 and Field 7. The information in Field 4 is stepped down to Field 1 by means of a straight line connecting the two. Here are the two diagrams showing the lines of communication between Fields 7 and 4 and between Fields 4 and 1:

Riemann Zeta Function and the Critical Line

There is currently much conjecture as to whether the zeros in the Riemann zeta function are infinite and if they all lie on the critical line of $0 = 1/2$.

I would like to propose that the zeros of the Riemann zeta function do in fact always lie on the critical line which itself is infinite. This is because the Riemann zeta function is the means by which the identity element or conjugation point or halfway point between 0 and 1 of Field 12 operates. Another way of expressing this is to say that the Riemann zeta function acts as the conjugation point between $Q_1(0)$ and $Q_1(1)$. Since the binary operation is by its very nature infinite then it follows logically that the neutral element is also infinite. Since the binary positions of 0 and 1 represent both the centre of the universe and the conjunction point of its radius and circumference respectively, then it follows that this midpoint of the universal radius of $\frac{1}{2}$ or between 0 and 1, is also infinite. Here is a diagram of the critical line:
Apart from the trivial zeros, the Riemann zeta function doesn't have any zero on the right of $\sigma=1$ and on the left of $\sigma=0$ (neither the zeros can lie too close to those lines). Furthermore, the non-trivial zeros are symmetric about the real axis and the line $\sigma=1/2$ and, according to the Riemann Hypothesis, they all lie in the line $\sigma=1/2$.

Here is a diagram of the relationship between the central 0 and its .5 projection onto the cosmic boundary (circumference = 1):

![Diagram of the relationship between the central 0 and its .5 projection onto the cosmic boundary](image)

**GEOMETRY OF SPHERE OF COSMOS – FIELD 12**

This .5 neutral element is represented in the universe as the $y$ axis of Euclidean space. Since the critical line of zeros of the Riemann zeta function all lie on the $y$ axis or SU(3)/Q2 axis of the universe, and also because the $y$ axis is itself infinite in nature (being the conjugation point between 0 & 1 of Field 12), then it follows that the zeros of the Riemann zeta function are concomitantly also infinite. Thus I hereby propose that the Riemann Hypothesis now be called “The Riemann Theory”.

![Diagram of geometry of cosmic sphere showing how Riemann zeta function arises](image)
CONCLUSION

There are obviously many perspectives on what the Riemann zeta function actually is. I am aware that I am providing many in this regard. This is because .5 embodies the state of “information in action” in the universe, that renders the state of .5 to have such a wide scope and different ways of interacting that it is important to discuss them all. In one sense all perspectives are related, in that they all relate to .5, but in another they are each different, since .5 acts in different ways, from combinatorics to connecting Q1 and Q3 to gravity, to creating colour (QCD) and to providing energy, charge, motion, and disseminating the life principle to the quantum mechanism.

I am sure that there will be many comments, confirmatory, repudiating and dismissive regarding the information in this paper. I am aware of its controversial and diverse content and yet I have boldly decided nonetheless to publish this work in the interests of promoting the concept that the basis of the non-trivial zeros of the Riemann zeta function lies on the $y$ axis or imaginary plane of the cosmos and that it arises as a direct result of the physics of Riemannian geometry – i.e. the geometry of a sphere and the spherical modelling of the entire cosmos.

I hope that I have been able to show some different perspectives of the Riemann zeta function, not so much from the perspective of its mathematical beauty, but more from its application in number theory as well as to the operation of the quantum and universal mechanisms. The causative explanation for its topological states are also worthy of consideration both for biological and optical applications at least. Hopefully, too, people will be in concurrence with my explanation of the infinite nature of the Riemann zeta function such that the Riemann Hypothesis is permanently laid to rest and the Riemann Theory can now come to life.

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NOTES

4 http://en.wikipedia.org/wiki/Identity_element
6 http://en.wikipedia.org/wiki/Riemann_Zeta_function
7 http://www.efunda.com/math/error_zeta/ZetaPlot.cfm
9 http://en.wikipedia.org/wiki/Complete_graph
10 http://en.wikipedia.org/wiki/Square