#### **CASSIOPEIA'S TOE**

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# **Physical Constants**

Is the PERMITIVITY CONSTANT the same in all Fields? Is permittivity the max speed at which wormholes can form?

ALL wormholes move at c. In fermions it is a closed loop. In bosons, not. How does the closed loop interact with the Higgs Field ???

Does my model make any physical constants derivable?

Is alpha or c a result of wormhole density of different Fields or of wormhole properties

How fast does light travel in s pipe?

If c isn't a constant in a gravity field, then maybe, space quanta are not stationary in that frame either. So perhaps, the space quanta themselves – if they contain energy – can move downward in a gravity well.

Or perhaps it is the wormholes that are moving downward (bosons).

# What wormhole properties are there?

How do the wormholes of different forces differ?

Length, width, standing wave?

c is related to the length of wormholes in the EM Field

G is related to the length of wormholes in the Gravity Field

Different modes of vibration (harmonics) determine coupling to different Fields?

How to correlate higher energy with shorter wavelength and shorter wormholes? Need to deduce if there is a correspondences among.., Frequency harmonics of the De Broglie. Frequency snd

Feynman diagrams of different levels

Wormhole length etc

## What is Vibrating

Perhaps the thing vibrating is just the wormhole vibrating – string = wormhole SO assume that the electron is a string

that string has a mode of vibration with a primary wavelength equal to the De Broglie wavelength

That primary wavelength establishes the length of the main wormholes that are established by the electron

but all higher harmonics also fit within that wormhole

so the electron also has smaller and smaller components at each higher harmonic

these harmonics establish wormholes of length 1/2 and 1/4 and 1/8 and so on But each set of shorter wormholes is less numerous by a factor of "j" and j-squared" and j-cubed" just like in QED

that's why each level adds less and less to the physically measurable quantities The limit of course is the Planck scale - no wormhole can be shorter than the Planck length

But that contribution is only 10<sup>-20</sup> of the whole electron

Whether the wormhole IS the photon or the photon is the vibration of energy inside the wormhole... makes no difference...

RED LIGHT photons contain about 1-10 eV

so a corresponding RED-LIGHT-WORMHOLE carries that energy as part of its topology

When that wormhole dissipates, that energy must be absorbed by something This is when a virtual photon becomes a real photon — during the exchange process.

During the exchange process, both charge are linked to the wormhole, and when the link is collapsed, th4n the wormhole energy goes from one to the other

Can the space quanta vibrate

(Oscillations about an equilibrium point)

Can the wormholes vibrate?

If so, what is the elastic force returning the oscillation to the center?

If all force is geometry, the oscillation must change the shape of the wormholes in a way that the favorable direction to travel / evolve is back to the topology that we started with.

Time and entropy could define the return...

What is the force that returns an EM wave back to its starting phase?

Perhaps the oscillation of space borrows energy from another source, and when that source takes it back, then we get the resulting oscillation -- like the Electric and Magnetic Fields do

### **Wormhole Formation**

Assume that the vibrating fermion causes the space quanta themselves to oscillate and grow and stretch and shrink again

When it encounters other space quanta in this fashion it creates the wormhole between them

The rate of this process could relate to the permittivity of space and the speed of light

#### STANDING WAVE

The wormholes only endure if they are the right length to support a standing wave of a given harmonic of the vibrating fermion