

## **Construction principles for chiral “atoms of spacetime geometry”.**

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Abstract,

Construction principles for chiral “atoms of spacetime” based on geometrical 3-D models.

Many physicists have searched for the construction principles of space time fabric. I present here some recent examples with their original descriptions.

“To show that the physical spacetime surrounding us can be derived from some fundamental, quantum-dynamical principle is one of the holy grails of theoretical physics.

The fact that this goal has been eluding us for the better part of the last half century could be taken as an indication that we have not as yet gone far enough in postulating new, exotic ingredients and inventing radically new construction principles governing physics at the relevant, ultra-high Planckian energy scale.”

Planckian Birth of the Quantum de Sitter Universe  
J. Ambjørn , A. Gørlich J. Jurkiewicz , and R. Loll

Professor Renate Loll (University of Utrecht nl.)

wrote on the fabric of spacetime:

“Armed with last century's insights into the nature of both quantum theory and general relativity, physicists believe that probing the structure of space and time at distances far below those currently accessible by our most powerful accelerators would reveal a rich geometric fabric, where spacetime itself never stands still but instead quantum-fluctuates wildly. One of the biggest challenges of theoretical physics today is to identify the fundamental "atoms of spacetime geometry" and understand how their interactions give rise to the macroscopic spacetime we see around us and which serves as a backdrop for all known physical phenomena.”

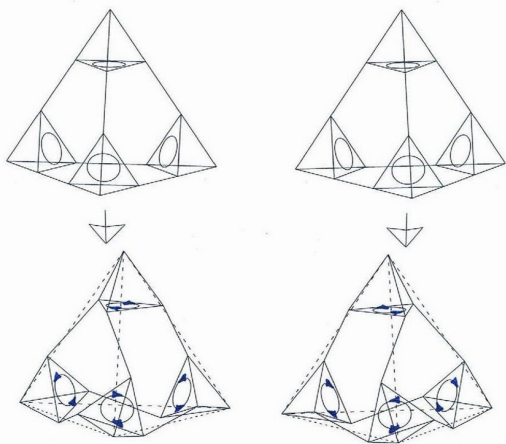
Being an architect, I am specially interested by the geometrical part of these questions. I found out that spacetime geometry and the geometry of elementary particles could be linked if we consider wave particle duality.

Here I humble present some possible structures of the spacetime fabric.

In a second letter I will try to give indications for elementary particle geometry.

**The fabric of spacetime geometry:  
Truncated Chiral Tetrahedron Space.**

3-D image of TWO tetrahedron space fill units with chiral, left or right handed characteristics, the origin of our material universe and our opposite anti-matter universe.



Space fill unit with RIGHT hand rotation.      Space fill unit with LEFT hand rotation.

The fourth dimension seems to be the oscillation speed (potential time base) of the Higgs doublets along the Cosmic lattice edges of the vacuum spin field.

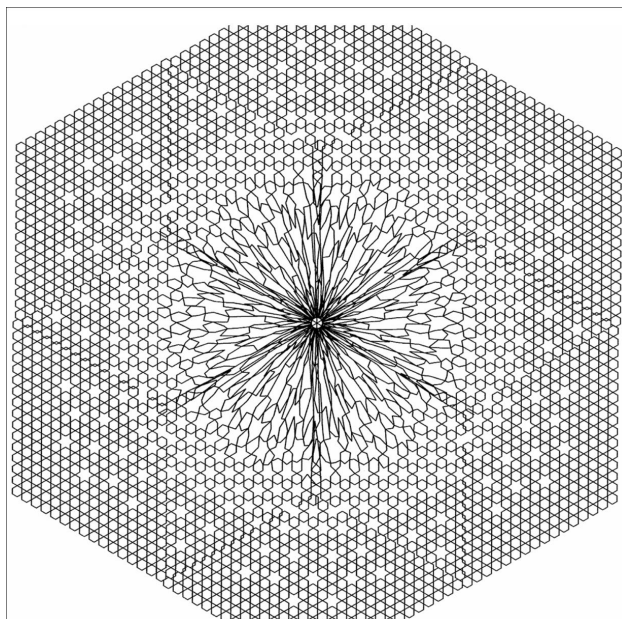
Higgs particle doublets are supposed to oscillate in "tandem" or doublets (like a boxer piston engine) along each vacuum lattice edge, to be able to transfer photonic information properly.

This system need to have Higgs particle doublets because otherwise it would be impossible to have a decent information transition system at the vortices.

In this system, one lattice edge is supposed to equal one Planck length.

The spiral structure of the vacuum lattices gives the vacuum a chiral influence on spinning and merging Fermion particles and a photonic

polarisation. The chirality of this system is supposed to be the origin of our material universe.

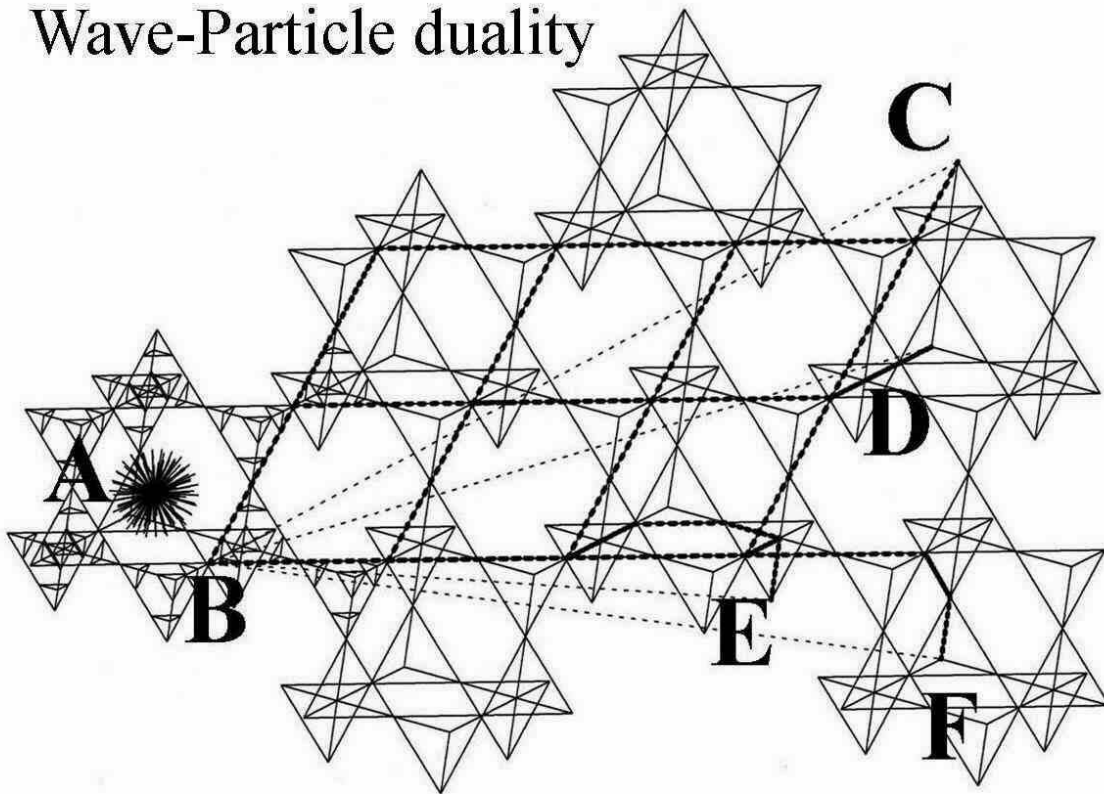


**Around black holes**, the Higgs lattice system will be absorbed by the black hole and as a consequence, the vacuum is thinned and the Planck length will vary and locally even increase!!!

As a consequence, the lightspeed of radiation passing the black hole, will decrease and suffer a redshift.

However, if we assume that black holes are the same thing and origin of Dark Matter, then the Hubble redshift is not a tell tale of the expansion of the universe.

## Wave-Particle duality



### **Photon trajectories through the tetrahedral Chiral vacuum lattice.**

A photon is created as a deformed Higgs particle at position (A), thus as a single (Photon/Gluon) particle which after some distance changes form back into a Higgs particle (B).

The photon energy is transferred into the oscillating Higgs system and travelling through the vacuum lattice in the form of a pulsating BUNCH of entangled energetic Higgs oscillations with the local speed of light. The distance between two cycles of the Bunch resembles the wavelength of the photon pulsating bunch.

(the bunch idea matches with the single photon double slit experiment)

After collision with a second Fermion, at locations C, D, E, F, the BUNCH of energy collapses and change the FORM of a local Higgs particle into the shape of the original Photon.

Five different shaped Gluons after some distance are called Photons.

Thus five different shaped Photons start their journey as Gluon. Author: Leo Vuyk.

TIME is assumed to run forward (right-handedness of clocks) because the universe is like a huge pinball machine. Spinning Fermions (the pinball) are driven by the oscillating Higgs field (the electric springs) which is supposed to be the origin of the general increase of entropy base of the second law of thermodynamics.

However dark matter in the form of black holes will eat the dark energy of the Higgs field and decrease entropy again, reason to postulate a pulsating and cyclic universe.

Universal Symmetry is not broken if we accept that each material universe is entangled at a long distance with an anti-material copy universe, equipped with opposite chirality inside the

oscillating Higgs lattice field. As a consequence Time never runs back in anti-material entangled universes, clocks have left-handed rotation over there.

#### References,

Planckian Birth of the Quantum de Sitter Universe

J. Ambjørn , A. Görlich J. Jurkiewicz , and R. Loll

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