

## **The truth about the only possible Theories Of Everything.**

First, the reader should understand why only a mathematical analysis that allows [mathematical](#) knots is possible for any possible [TOE](#). For almost all theoretical physicists this simple mathematical fact still is a **NOT** understood “[mathematical](#)” fact, and to explain myself a little better I'll explain why knots are only possible in 3D-space, i.e. easy-imaginable 4D-spacetime. On easy understandable imaginable grounds mathematical knots demand an at least 3D-space! However is only 4D-spacetime possible or can also more dimensional spaces be analyzed correctly with easy i.e. (simple [linear](#)-) mathematical methods!?!

In this respect, *already* in 1919 [Kaluza-Klein](#) developed a 5D-spacetime analysis to describe the EM-field together with gravitation. And by mathematical means this analysis [seems](#) entirely correct. The extra space-coordinate is compactified, i.e. curled-up into a very small circle almost infinitesimal small. And this is the [main mathematical](#) problem with the trick of using compactified dimensions. The amount of spacelike dimensions remains greater than 3 when the extra dimensions are not compactified to [exactly](#) zero distance, so this spacelike description does not allow knots even after compactification! Reading the following [Kaluza-Klein article](#) explains why this 5D-spacetime analysis does not allow mathematical knots because compactification is of the order of the Planck-length  $\gggg 0$ . And this must imply that simple analyzed “linear” [mathematical knots](#) are only possible in 4D-spacetime, i.e. 3D-spatial-space.

Even though compactification of additional space-like-coordinates seems a bright idea, this idea can only work correctly with the extra spacelike coordinates diminishing completely to zero as described by [Riemann techniques](#) in Einstein's [General Relativity](#). In [GR](#) all  $n \geq 8$  higher dimensional Riemann space expressions are taken together to end up with all expressions given in only 4D-spacetime. So the difficult technique of compactification of extra dimensions is not used in this completely correct mathematical analysis. And this never happens in all analyzed compactification techniques. Because in [GR](#) one already has less spatial-coordinates at the start of the mathematical analysis. People should understand the main reason why “mathematical analysis” is easy. Mathematical analysis is “simple” [linear](#)-analysis and through duplication of coordinates in the **ONLY** possible 4D-spacetime analysis curvature of spacetime can be included in Albert Einstein his [GR](#)! I'm sad that he himself never experienced this in my eyes BEAUTIFUL mathematical view of [QM](#), which in the end results into the only possible completely analyzable Theories Of Everything!

As a result the only allowed mathematical spacetime analysis to solve scientific problems must use the only possible and also very easy imaginable 4D-spacetime used by Albert Einstein more than a century ago to analyze his simple SR! And indeed in [GR](#) a more dimensional mathematical analysis is needed to describe curvature by simple, i.e. “linear mathematical” methods, but this does NOT raise any conflicts with an easy linear “mathematical” analysis, where **ONLY** a 4D-spacetime coordinates analysis has to be used! And most physicists do not realize this fact, just like Albert Einstein himself did NOT understand this simple mathematical fact of “mathematical (closed)” knots!

Curvature of spacetime implies mathematically extendedness in the 2D-plane orthogonal to the direction of motion of any possible analyzed “[elementary particle](#)”. And this “simple” because on linear mathematical grounds completely solvable problem at once yields the only possible mathematically analyzable Theories Of Everything.

Our simple analyzable reality has nothing more to analyze than just [26 \(= 5 + 3 x 7\)](#) different harmonic oscillating elementary particles of our 3 different families of fermions universe. All elementary particles oscillating in the 2D-plane orthogonal to the described direction of motion. All fermions solved with open-Boundary Conditions and all bosons solved with closed-BC. This at once explains why all fermions possess non-zero rest-masses and allow more so-called “families”, which only differ in their rest-masses.

All elementary fermions, so-called [leptons](#), are spin $\frac{1}{2}$  particles. This is the result of a complete non-reducible 4D-spacetime symmetries analysis. The most general form of the infinitesimal transformation-tensor  $T^{\mu\nu}$  can be given as the sum of an anti-symmetrical transformation-tensor  $A^{\mu\nu}$  and a symmetrical transformation-tensor  $S^{\mu\nu}$ :

$$T^{\mu\nu} = A^{\mu\nu} + S^{\mu\nu} \quad (1)$$

The average extendedness of an [elementary particle](#) can be described mathematical exactly. Described from the inertial-frame moving with origin at the average position of the harmonic oscillating wave in the 2D-plane orthogonal to the described direction of motion, chosen as the positive z-axis, the average extendedness in polar-coordinates is mathematically:

$$2\langle\rho\rangle = 1\frac{1}{2}\rho_{\max} = 3\rho_{\min} = \rho_{\max} + \rho_{\min} = \underline{s} \cdot \underline{\varphi} \cdot \underline{h} \quad (2)$$

With  $\underline{s}$  the conventional spin quantum number (0,  $\frac{1}{2}$ , 1,  $1\frac{1}{2}$ , 2, ...),  $\underline{\varphi}$  the Golden Ratio, and  $\underline{h}$  the Planck-length which includes the constant of Planck  $\underline{h}$  explicitly.

This *at-once* excludes spinless elementary particles, because they do not comply to the [CAP](#)!

Describing “[elementary particles](#)” in compliance with the [CAP](#) requires a description with an harmonic oscillating wave in the 2D-plane orthogonal to the direction of motion of the elementary particle. I.e. it requires describing “[elementary particles](#)” extended in the 2D-orthogonal plane with *non-zero* extendedness. This explains completely why no spinless “[elementary particles](#)” have been detected in any experiment up to this very day! The discovered *assumed* spinless Higgs boson with a rest-mass of about 125.4 GeV has an average decay-time of order  $10^{-22}$  seconds. The detected decay-time is of the square-root order of the Plank-time, so mathematical completely allowed. As a direct result of this very quick decay of the Higgs-boson its spin can only be detected from its decay products. With the about 174.000 detected Higgs-bosons during the first run of the LHC three different possible spin-values were detected. The analyzed spins where {0, 1, 2} and from the current recorded data no final conclusion about the spin of the Higgs-boson could be made! But from the decay-process into two “*spinning*” spin1 photons, which was the most frequent detected decay-path, the most probable spin of the Higgs-boson seems to be spinless! Even though the created particles are two spin1 photons. And **ONLY** when all created photon-pairs are in a [singlet-state](#) the source, being a Higgs-boson, is allowed to be *spinless*. So, this is the only aspect of this decay-path which still has to be analyzed very securely! And in advance I am able to say that the found “resonance” is NOT an elementary spinless not-understood “Higgs-boson“!

The [CAP](#) demanded extensiveness of all possible particles requires a mathematical representation described with logical analyzable equations of motion. At *very small QM* sizes the complete mathematical analysis can only be performed using “easy linear” SR analysis. And this makes the “[simple](#)” problem completely solvable with *very* easy “*imaginable*” mathematical methods!

If anyone is able to tell me I'm wrong, please come visit me at [Vogelvlucht](#) in the Netherlands at the address or use my e-mail address:

Or also read: <http://quantumuniverse.eu/Tom/CERN/TOE2.pdf> in which all possible [elementary particles](#) with all their characteristics are presented.

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