* **Origin Of Mathematics** is postulate0

Abstract This theory is zero

Applications of Theory

Summary:0=z is defined by its **algebraic properties** &by being real (sect1) and constant (sect2)

1)**Algebraic properties** *defining* 0: list 0=0X0, 1=1X1, 1=1+0

To introduce symbols the 'List-define' method then *defines* the symbols from these lists, so they are not those many (ring, field) axioms anymore. For example list **1=1X1** and **0=0X0** defines z=zz and here list +0 defines (Constant) +C so that list 1=1X1+0= (1+0) and 0=0X0+0 defines **z=zz+C**.eq1 So eq1 (symbols) thereby gives us those algebraic properties of 0 as its associated list

Real number is defined to be the limit of a rational Cauchy *sequence* (with perhaps *large* sequence numbers) that must double as the unique *iteration* $z_{N+1}-z_Nz_N=C$ to incorporate those eq1 'z=zz+0' algebraic properties of 0. Thus **Postulate0 as z_o=0**=z (if constant C=0, sect2) given its implied **real** number iteration with its **eq1** z=zz+0 algebraic properties of 0

1a) Algebraic properties of 0 for these *larger numbers* than 1,0

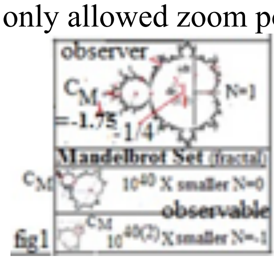
merely use new symbols such as parenthesis'() symbol multipliers zz' eg.,**symbol (**1+1**)(**1+0**)** defined from **list** 1X1+1X0+1X1 +1X0 etc. This implies we can then use these above lists to define these other parenthetical distributive and associative laws and 0=1X0, δC=0 so additive inverse $C_2-C_1=0$ for *rings* and real, ab=c so b≡c/a, etc for *fields.*

2) C is Constant so δC=0

So **postulate0** ("**z_o=0**") also derives mathematics, including δC. So we can thereby plug ansatz z=1+δz into **eq1** and get δz+δzδz=C (3) so$\frac{-1\pm\sqrt{1^2+4C}}{2}$=δz≡dr±**i**dt (4) for C<-¼. Thus C complex

C is Constant so we must then plug **eq1** δz+δzδz=C (and its iteration $z_{N+1}-z_Nz_N$=C) into δC=0.

2a) **Plug**ging the **eq1** rel *iteration* ($z_{N+1}-z_Nz_N$=C) into **δC** implying δC=δ($z_{N+1}-z_Nz_N$)=δ(∞-∞)**≠**0 for some C. The Cs that result *instead* in finite z_∞s (so δC**=**0) define the **Mandelbrot set C_M** in fig1 whose lemniscate(11) continuity along dr≈dR is required bythe derivative in δC≡(∂C/∂R)dR =0 =dC=dC_M10^{xN} with its max extremum scale jump xN at C_M=-1.75 where the largest x≈40, fig.8. Eg. for huge N=1 fractal scale |δz| >>**1** in the N=0. So extreme -**¼**,-1.75 solve δC=0 are the only allowed zoom points (to pull out fig1) on http://www.youtube.com/watch?v=0jGaio87u3A



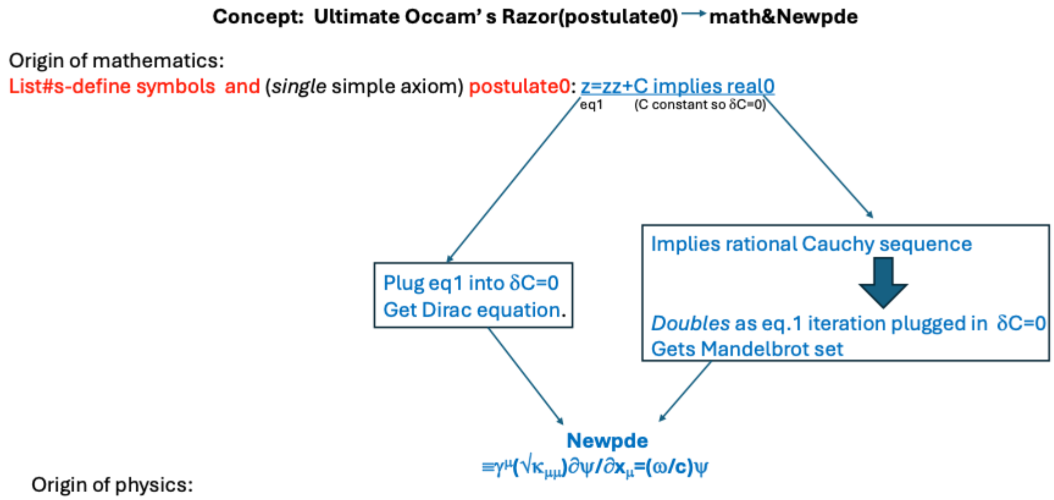
are the continuous lemniscate dR axis shapes pulled from that http zoom.

2b) **Plugging eq1** directly **into δC=0** is also required. So given eq1 and thus equations 3,4 δC=δ(δz+δzδz)=δδz(1)+2(δδz)δz≈δ(δzδz) =δ((dr+idt)²) =δ[(dr²-dt²)+ i(drdt+dtdr)] =**0** = (5) Minkowski metric +Clifford algebra≡**Dirac equation** (See eq7a γ^μ derivation from eq5.). But (N=0, 2D) δδz1 must be small but not zero so it *automatically* provides 2 extra degrees of freedom for the (N=1, 2D) independent Dirac dr implying 2D Dirac+2D Mandelbrot=4D Dirac **Newpde**≡$\gamma^\mu(\sqrt{\kappa_{\mu\mu}})\partial\psi/\partial x_\mu=(\omega/c)\psi$ for *ν*,e; $\kappa_{00}=e^{i(2\Delta\varepsilon/(1-2\varepsilon))}-r_H/r$, $\kappa_{rr}=1/(1+2\Delta\varepsilon-r_H/r)$; $r_H= C_M/\xi= e^2X10^{40N}/m$ (fractal jumps **N**=. -1,0,1.,) 1>>ε≡μ >>Δε≡m_e (appendix A,B, C,fig2). Postulate0 means *real* 0 exists (causing the newpde to have *real* eigenvalue operators). Thus **a number** dr/ds "**exists"** if it's also a *real* eigenvalue on the eigenfunction ψ of the Newpde. davidmaker.com

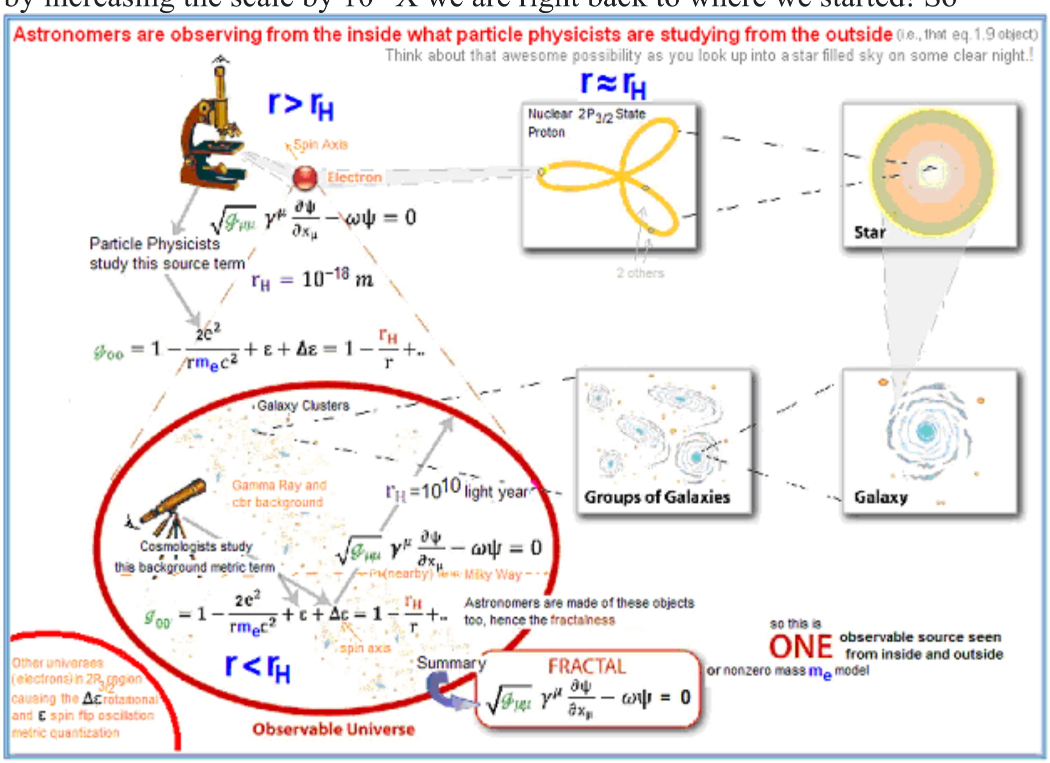
3)completeness and choice

Also note our postulate of 0 with that **eq1** (ie z=zz+C) provides the important mathematical concepts of “**Completeness**” (min(zz-z)>0) given (1/16-(-¼)=5/16>0) for the -C domain (sect.2) of (-1.75,-¼) and “**choice”** (since the single “choice” function is “z=zz+C”) which are thereby NOT axioms anymore. Also *counting* the zoom trifurcations (real eigenvalue counters in Mandelbrot set given sect.2 Dirac eq result of a plugin) replaces **Peano’s** counting **axioms**

Conclusion Postulate0 is the simplest idea imaginable (Hold that thought: Note that it draws a ‘blank’.), all the rest is applications. If you can straighten out mathematics (eg., one simple axiom0 gets everything) you will also straighten out theoretical physics (next page).



Mandelbrot set $10^{40N}XC_M$, N integer in Newpde) of fig1 implies that by increasing the scale by $10^{40}X$ we are right back to where we started! So



Object B object A object C

It's Broken, fix it (with the Newpde)

Abstract In that regard Dirac in 1928 made his equation(1) flat space(2). But space is not in general flat, there are forces.

So over the past 100 years people have had to try to make up for that mistake by adding ad hoc convoluted gauge force after gauge force until fundamental theoretical physics became a mass of confusion, a train wreck, a junk pile. So all they can do for ever and ever is to rearrange that junk pile with *zero actual progress* in the most fundamental theoretical physics ,.. forever. We died.

By the way note that Newpde(3) $\gamma^\mu \sqrt{(\kappa_{\mu\mu})}\partial\psi/\partial x_\mu=(\omega/c)\psi$ is NOT flat space (4) so it cures this problem (5).

References

(1) $\gamma^\mu\partial\psi/\partial x_\mu=(\omega/c)\psi$

(2)Spherical symmetry: $(\gamma^x\sqrt{\kappa_{xx}}dx+\gamma^y\sqrt{\kappa_{yy}}dy+\gamma^z\sqrt{\kappa_{zz}}dz+\gamma^t\sqrt{\kappa_{tt}}idt)^2=\kappa_{xx}dx^2+\kappa_{yy}dy^2+\kappa_{zz}dz^2-\kappa_{tt}dt^2=ds^2$

$\kappa_{xx}=\kappa_{yy}=\kappa_{zz}=\kappa_{tt}=1$ is flat space, Minkowski, as in his Dirac equation(1).

(3) Newpde: $\gamma^\mu\sqrt{(\kappa_{\mu\mu})}\partial\psi/\partial x_\mu=(\omega/c)\psi$ for e,ν. So we didn't just drop the $\kappa_{\mu\nu}$ (as is done in ref.1)

(4) Here $\kappa_{oo}=1-r_H/r=1/\kappa_{rr}$, $r_H=(2e^2)(10^{40N})/(mc^2)$. The **N**=..**-1,0,1**,.. fractal scales (next page)

(5)This Newpde κ_{ij} contains a Mandelbrot set(6) $e^2 10^{40N}$ **N**th fractal scale source(fig1) term (from eq.13) that also successfully **unifies theoretical physics.** For example:

For **N**=-1 (i.e.,$e^2X10^{-40}\equiv Gm_e^2$) κ_{ij} is then by inspection the Schwarzschild metric g_{ij}; so we just derived General Relativity and the gravity constant G from Quantum Mechanics *in one line*. Otherwise people have been trying to do this for over 100years with no success.

For **N**=1 (so $r<r_C$) Newpde-Dirac zitterbewegung expansion stage explains the universe expansion thereby explaining cosmology *in one line*(appendixA). For example:

For **N**=1 zitterbewegung harmonic coordinates and Minkowski metric submanifold gets the De Sitter ambient metric we observe. DESI data appears to extrapolate to this harmonic oscillation.

For **N=0** at $r=r_H$ SP^2 is the 3e baryons, (QCD not required) and Hund's rule $1S_{1/2}$ μ, $2S_{1/2}$ τ leptons since stable $2P_{3/2}$ at $r=r_H$ (section IIIa). The 4 Standard electroweak Model (SM) Bosons (Z_o,W^+,W^-,γ) are derived from required 4 axis rotations of the Newpde e,ν (App.C, eqs.16,C1). Thus we derived the SM from first principles* (postulate0) which has not been done before.

For **N=0** spherical harmonic $2P_{3/2}$ at $r=r_H$ with B flux quantization gives ultrarelativistic electron +e (γ=917) extremely narrowed E field lines at center *explaining the strong force* with the same large γ also explainingthe big baryon masses (sect.IIIa and part2.).We do not need QCD anymore

For **N=0** the higher order Taylor expansion(terms) of $\sqrt{\kappa_{ij}}$ gives the anomalous gyromagnetic ratio and Lamb shift *without* the renormalization and infinities (Appendix A,B): very important.

So κ_{uv} provides the general covariance of the Newpde. Eq. 4 even provides* us space-time r,t.

So we got all of physics here by mere inspection of this (curved space) Newpde with no gauges.

So where does this Newpde come from? From a *first principles* (ie postulate0) derivation: given algebraic definition of zero 0=0X0, 1=1X1,1=1+0 (so z=zz+C eq1), real0 with 0 constant (so δC=0). Recall Real means rational Cauchy *sequence* (limit), doubling here as eq1 *iteration* plug into δC=0 gives Mandelbrot set. Plug eq1 directly into δC=0 get Dirac eq. Both together is Newpde*. It works because it is a first principles derivation from the simplest imaginable idea of ultimate Occam's Razor**postulate0**. We figured it out. We finally understand.