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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 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 these associated lists.

Real number 0

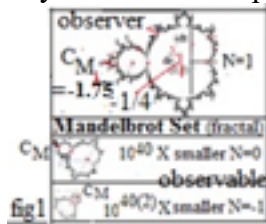
real number 0 is a limit of rational Cauchy sequences (so larger numbers) that must double as the unique iteration $z_{N+1}-z_N z_N=C$ to incorporate those eq1 ' $z=zz+0$ ' algebraic properties of 0. Thus we **Postulate0** as $z_0=0=z$ (if constant $C=0$, sect2) given its real iteration with eq1 algebraic properties

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 $0=1X0$, $\delta C=0$ 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 $\delta C=0$

So **postulate0** (" $z_0=0$ ") also derives mathematics, including δC . So we can thereby plug ansatz $z=1+\delta z$ into eq1 and get $\delta z+\delta z\delta z=C$ (3) so $\frac{-1\pm\sqrt{1^2+4C}}{2}=\delta z=dr\pm i dt$ (4) for $C<-1/4$. Thus C complex **C is Constant** so we must then plug eq1 $\delta z+\delta z\delta z=C$ (and its iteration $z_{N+1}-z_N z_N=C$) into $\delta C=0$.

2a) Plugging the eq1 rel iteration ($z_{N+1}-z_N z_N=C$) into δC implying $\delta C=\delta(z_{N+1}-z_N z_N)=\delta(\infty-\infty)\neq 0$ for some C. The Cs that result instead in finite z_∞ s (so $\delta C=0$) define the **Mandelbrot set** C_M in fig1 whose lemniscate(11) continuity along $dr\approx dR$ is required by the derivative in $\delta C\equiv(\partial C/\partial R)dR=0=dC=dC_M 10^{xN}$ with its max extremum scale jump xN at $C_M=-1.75$ where the largest $x\approx 40$, fig.8. Eg. for huge $N=1$ fractal scale $|\delta z|\gg 1$ in the $N=0$. So extreme $-1/4, -1.75$ solve $\delta C=0$ 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 $\delta C=0$ is also required. So given eq1 and thus equations 3,4 $\delta C=\delta(\delta z+\delta z\delta z)=\delta\delta z(1)+2(\delta\delta z)\delta z\approx\delta(\delta z\delta z)=\delta((dr+idt)^2)=\delta[(dr^2-dt^2)+i(dr dt+dt dr)]=0=$ (5) **Minkowski metric** + **Clifford algebra** $\equiv$ **Dirac equation** (See eq7a γ^μ derivation from eq5.). But ($N=0$, 2D) $\delta\delta z 1$ 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** $\equiv \gamma^\mu(\sqrt{\kappa_{\mu\mu}})\partial\psi/\partial x_\mu=(\omega/c)\psi$ for v, e ; $\kappa_{00}=e^{i(2\Delta\varepsilon/(1-2\varepsilon))}r_H/r$, $\kappa_{rr}=1/(1+2\Delta\varepsilon r_H/r)$; $r_H=C_M/\xi=e^2 X 10^{40N}/m$ (fractal jumps $N=-1, 0, 1, \dots$) $1>\varepsilon\equiv\mu>\Delta\varepsilon\equiv m_e$ (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

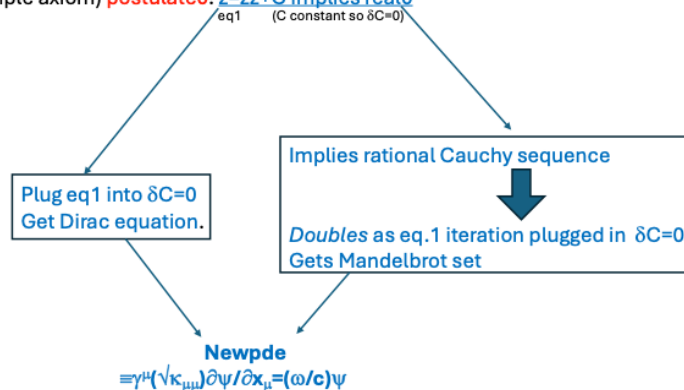
Also note our postulate of 0 with that **eq1** (ie $z=zz+C$) provides the important mathematical concepts of “**Completeness**” ($\min(zz-z)>0$) given $(1/16-(-1/4)=5/16>0)$ for the $-C$ domain (sect.2) of $(-1.75,-1/4)$ and “**choice**” (since the single “choice” function is “ $z=zz+C$ ”) which are 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).

Concept: Ultimate Occam’s Razor(postulate0) → math&Newpde

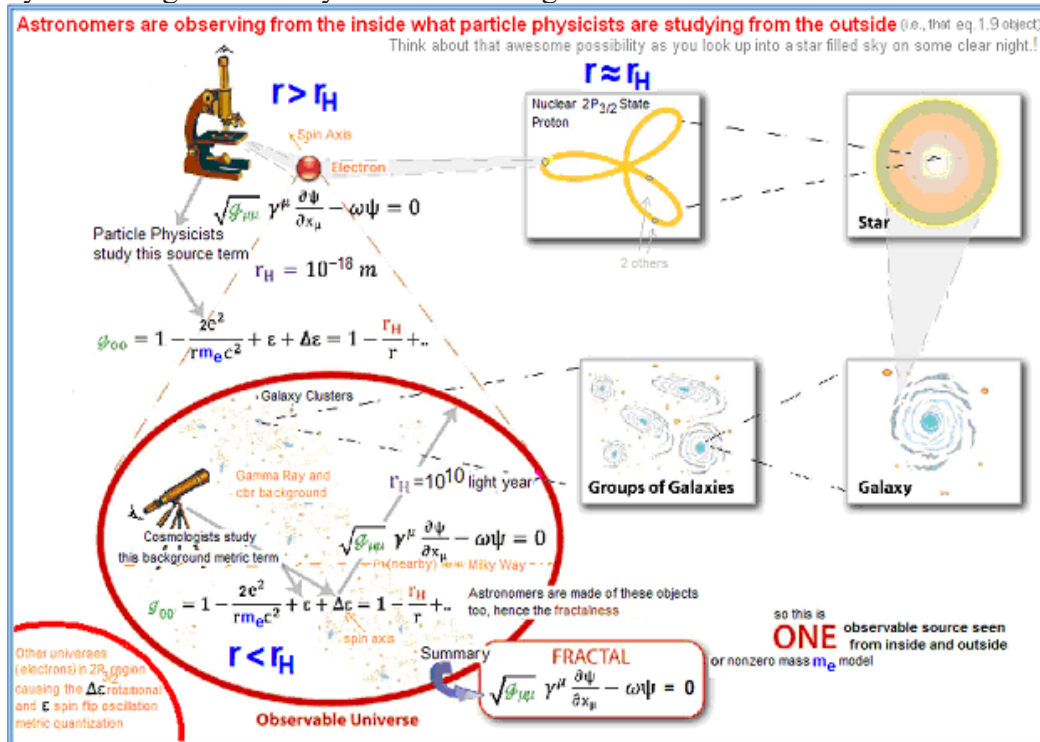
Origin of mathematics:

List#s-define symbols and (single simple axiom) **postulate0: $z=zz+C$ implies real0**



Origin of physics:

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

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: $(\gamma^x \sqrt{\kappa_{xx}} dx + \gamma^y \sqrt{\kappa_{yy}} dy + \gamma^z \sqrt{\kappa_{zz}} dz + \gamma^t \sqrt{\kappa_{tt}} dt)^2 = \kappa_{xx} dx^2 + \kappa_{yy} dy^2 + \kappa_{zz} dz^2 - \kappa_{tt} dt^2 = ds^2$
 $\kappa_{xx} = \kappa_{yy} = \kappa_{zz} = \kappa_{tt} = 1$ 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,v. 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 $N = \dots -1, 0, 1, \dots$ fractal scales (next page)

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

For $N = -1$ (i.e., $e^2 \times 10^{-40} \equiv G m_e^2$) 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 100 years 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* (appendix A). 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 $1S_{1/2} \mu$, $2S_{1/2} \tau$ leptons since stable $2P_{3/2}$ at $r = r_H$ (section IIIa). The 4 Standard electroweak Model (SM) Bosons (Z_0, W^+, W^-, γ) are derived from required 4 axis rotations of the Newpde e,v (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 ($\gamma = 917$) extremely narrowed E field lines at center *explaining the strong force* with the same large γ also explaining the 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 $\kappa_{\mu\nu}$ 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 $\delta C = 0$). Recall Real means rational Cauchy *sequence* (limit), doubling here as eq1 *iteration* plug into $\delta C = 0$ gives Mandelbrot set. Plug eq1 directly into $\delta C = 0$ 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.