

## This theory is 0

**Introduction** All QM physicists know about *real* eigenvalue (Dirac eq), observables. All mathematicians know that the limit of a Cauchy sequence of rational numbers is a Cauchy *real* number. So all we did here is show we postulated *real#0* by using it to derive a rational Cauchy sequence with limit 0. We did this because that same postulate (of *real#0*) math *also* implies *the* real eigenvalues we get from a generally covariant generalization of the Dirac equation that does not require gauges (Newpde), clearly an advance over previous physics pdes. To show this

**Define0:** with numbers  $1=1+0$  and definition of list  $0=0X0$ ,  $1=1X1$  as symbol  $z=zz$  (algebraic definition of 0). Also

**Postulate *real* number 0 if  $z'=0$  and  $z'=1$  plugged into  $z'=z'z'+C$  (eq.1) results in some  $C=0$  constant (ie  $\delta C=0$ ).**

There is of course the obvious  $C=0$  solution but including  $\delta C=0$  in those above *plugins* adds other Cs. So:

**Plug  $z'=0$  into eq.1** get 2D **Mandelbrot** set

So  $z_0=0$  into eq1 iteration (plug left side into right side repeatedly)  $z_{N+1}=z_N z_N + C$ , (generates the larger numbers  $z_{N+1}$  so more *symbol* algebra so calculus definitions) requires we reject the Cs for which  $\delta C = \delta(z_{N+1} - z_N z_N) = \delta(\infty - \infty) \neq 0$ . The Cs that are left over define the **Mandelbrot set** with new eq1  $z$  so  $\delta z \leq C_M = 10^{40N} 1.4$ ..fractal scaleN jumps

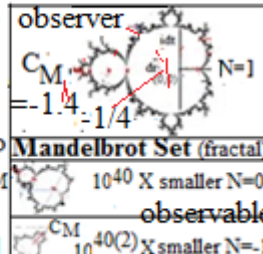
**Plug  $z'=1$  into eq.1** get 2D **Dirac** equation (new 2 degrees of freedom from  $\delta z$ )

So  $z=1+\delta z$  into eq.1 is  $\delta z + \delta z \delta z = C$ . So  $\delta z = (-1 \pm \sqrt{1 + 4C})/2 = dr + idt$  So bounded complex (Mandelbrot) set  $\delta C=0$  extreme  $-1/4 > C \geq -1.4$ ..= $C_M$  in fig1. For  $N=1$  (big C observer) then  $\delta z \approx C$  so  $\delta C = \delta \delta z \approx 0$  and so  $\delta C = \delta(\delta z + \delta z \delta z) = \delta \delta z + 2\delta \delta z \delta z \approx \delta(\delta z \delta z) = \delta((dr + idt)^2) = \delta[(dr^2 - dt^2) + i(dr dt + dt dr)] = 0 = \text{Minkowski metric} + \text{Clifford algebra} = \text{Dirac eq.}$  Also  $\delta C=0$  extremum  $-1/4$  Mandelbrot set iteration becomes the rational Cauchy sequence  $-1/4, -3/16, -55/256, \dots, 0$ , implying **0** is *real*

4D **Mandelbrot** and **Dirac** relation rewritten with  $N=0$  observability (eq.11) and 3D orthogonalization is QM

**Newpde**  $= \gamma^\mu (\sqrt{\kappa_{\mu\mu}}) \partial \psi / \partial x_\mu = (\omega/c) \psi$  for  $e, \nu$ ,  $\kappa_{00} = e^{i(2\Delta\epsilon/(1-2\epsilon))} - r_H/r$ ,  $\kappa_{rr} = 1/(1+(2\Delta\epsilon/(1+\epsilon)) - r_H/r)$ ,  $r_H = C_M/\xi = e^2 X 10^{40N}/m$  ( $N=., -1, 0, 1, .$ ),  $\Delta\epsilon = 0$  for neutrino  $\nu$  and  $N=-1$

See davidmaker.com for backups

<b>Spherical Harmonic Solutions to Newpde: <math>2P_{3/2}, 1S_{1/2}, 2S_{1/2}</math> at <math>r=r_H</math> Stable <math>2P_{3/2}</math> at <math>r=r_H</math></b>	
<p><math>N=0</math> at <math>r=r_H</math> <math>2P_{3/2}</math> <math>3e</math> baryons (QCD not required) Hund's rule <math>1S_{1/2}, 2S_{1/2}</math> leptons (Koide)</p> <p>4 SM Bosons from 4 axis extreme rotations of <math>e, \nu</math></p> <p><math>N=-1</math> (i.e., <math>e^2 X 10^{-40} \approx C_M^{-2}</math>). <math>\kappa_{\mu\nu}</math> is then by inspection the Schwarzschild metric <math>g_{\mu\nu}</math> (For <math>N=-1, \Delta\epsilon \ll 1</math>). So we just derived General Relativity (GR) and the gravity constant G from Quantum Mechanics (QM) in one line.</p> <p><math>N=1</math> Newpde zitterwegung expansion stage is the cosmological expansion.</p> <p><math>N=1</math> Zitterbewegung harmonic coordinates and Minkowski metric submanifold (after long time expansion) gets the DeSitter ambient metric we observe.</p> <p><math>N=0</math> The third order Taylor expansion (terms) in <math>\sqrt{\kappa_{\mu\nu}}</math> gives the anomalous gyromagnetic ratio and Lamb shift <i>without</i> the renormalization and infinities.</p> <p>So <math>\kappa_{\mu\nu}</math> provides the general covariance of the Newpde.</p> <p>So we got all of physics here by <i>mere inspection</i> of this Newpde with no gauges!</p>	 <p>observer</p> <p><math>N=1</math></p> <p><math>C_M</math></p> <p><math>-1.4</math></p> <p><math>-1/4</math></p> <p><b>Mandelbrot Set (fractal)</b></p> <p><math>C_M</math> <math>10^{40}</math> X smaller <math>N=0</math></p> <p><b>observable</b></p> <p><math>C_M</math> <math>10^{40(2)}</math> X smaller <math>N=-1</math></p> <p>fig1</p>

•**Conclusion:** So by merely (**plugging 0,1 into eq.1**) **postulating 0**, out pops the whole universe, BOOM! easily the most important discovery ever made or that will ever be made again. We finally figured it out.

Note a theory with many assumptions is *not* fundamental: so where did those many assumptions come from? Also a first principles theory with the correct ultimate Occam's razor assumption(0), as here, will *not* hit a brick wall, thus the sky is the limit for breakthrough physics innovation coming out of such a theory.