Physics for Astro-Theology

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Abstract
This paper provides some more calculations on the basic physics of Cusack’s Model of the Universe as presented in the previous paper Astro-Theology. Gravity, Space, Energy, Mass are considered. There is a treatment of Waves and the Speed of Light and Arnold’s ODE’s.

Keywords: Gravity; Waves; Energy; Space; Mass; Atoms; Golden Mean; Universal Constant

Introduction
I present some more basic calculations of Gravity, Space, Energy, and Mass on Cusack’s model of the Universe. Waves and the speed of light is touched on briefly as well as the introduction of Cusack’s Universal Constant.

Cusack Gravity - Energy - Space Equation
\[ x^2/a + y^2/b = r^2 \]
\[ x^2/8 + y^2/1 = 1 \]
\[ 0.125x^2 + y^2 = 1 \]
\[ y = 1 - 0.3536x \]
\[ dy/dt = v = 0.3536 \]
\[ d^2y/dt^2 = a = 0 \]
\[ v = dt/t = 0.3536 = 0.1334/4/t \]
\[ t = 0.0942 \]
\[ d/4 = 0.1334/4 = 0.0333 \]
\[ d = v + 1/2at^2 \]
\[ (0.3536)(0.0942) + 0 = 0.0333 \]
\[ d = G/2 \]
\[ s = 1 \]
\[ E = 1 = s \]
\[ E = 1, e = 1 \]
\[ hypotenuse = \sqrt{2} \]
\[ E^2 + s^2 = G^2 \]
\[ C = 2\pi R \]
\[ 2\pi (4 + 1/4)/2 = \pi^2 \]
\[ d = \sqrt{t + 1/2at^2} \]
\[ 0.1334 = 0.85t + 1/2 (0.85)t^2 - 0.1334 \]
\[ t^2 - t - 0.1334 = 0 \]

Quadratic
\[ t = 1.93, 0.66 \]
\[ t = \text{positive } 6.6 \]
\[ 13 \text{ cycles } * t = 13 * 6.6 = 85.8 \text{ cf } 86 \]
\[ m = \text{slope} = 3 = c \]

\[ \Delta E/\Delta t = dE/dt = c \]
\[ c = 2t - 1 \]
\[ t = 2 \]
\[ \text{t/0.4083} = 4.898 \text{ cycles} \]
\[ 4.898/12.98 \text{ cycles} = 1/2.65 \]
\[ 2.65/2 = 1.325 \]
\[ d = 0.43.49\text{ radians} \]
\[ d = 0.76; dt = 0.1334 \]
\[ dt = 13.9358 \]
\[ t = 2/13.93 = 0.1435 \]

The energy follows a sin curve from -1 to 1 to -1 back to 1 in one cycle. \[ 2\pi/2 = \pi = E \]
\[ E = 1 - 0.125x^2 \]
\[ Let \ x = 0 \]
\[ E = 1 \]
\[ Let \ x = 4 \]
\[ E = 1 - 0.125(4) = 1 - 2 = -1 \]
\[ E = 1 \]

Ellipse
\[ x^2/8a + y^2/b = R^2 \]
\[ x^2/8 + y^2/1 = 1 \]
\[ y^2 = 1 - 0.125x^2 \]
\[ E = 1 - 0.125x^2 \]
\[ dE/dt = -0.125(2)x \]
\[ d^2E/dt^2 = -2(0.125) = -0.25 \]
\[ T/10 = \text{Period} = G = 6.67 \text{ = 0.25F} \]
\[ G = d^2E/dt^2F = aF \]

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Received December 22, 2016; Accepted February 08, 2017; Published February 16, 2017

Citation: Cusack PTE (2017) Physics for Astro-Theology. Fluid Mech Open Acc 4: 146. doi: 10.4172/2476-2296.1000146

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\[
F = Ma \quad G = Ma^2 \quad \text{From above} \quad G = Mv^2 \quad v = a
\]

Now integrating over the length of the line
\[
\int E = \int [1 - 0.125x^2]
\]
\[
\int E = x - 0.125x^3/3
\]
But \( x = 8 \)
\[
\int E = 8 - 0.125(8^3) = 0.1333 = \frac{d\theta}{dt}
\]
So, Total Energy = T.E. = \( s = 1 - \sin 1 \)
\[
\Omega_1 R = \Omega_2 R
\]
\[
d\theta_1/dt (4) = d\theta_2 (1/4)
\]
\[
16 d\theta_1/dt = d\theta_2/dt
\]
\[
16 (0.1334) = 2.1344 = \frac{d\theta_2}{dt}
\]
\[
2.1344/0.4083 = 5.2275 = E_2 \quad \text{(see C.U.E.)}
\]

**Energy Acceleration (Gravity)**

\[
F_1/F_2 = 26.666/426.656 = 0.0625
\]
\[
2 \cdot 0.0625 = 1.250 = E_{\text{min}}
\]
\[
E_{\text{min}} = x^3 - x - 1 = -1.25
\]
\[
x = 1/2 = \text{space (from above)}
\]
\[
G = dE/dt^2 = \text{Energy Acceleration = Gravity}
\]
\[
d^2E/dt^2 = G = 2
\]
\[
G_{\text{max}} = 26.666/4 = 6.6667 = \text{N/m}
\]
At \( y = 3 \), there are 8 units across the parabola. Since there are 12 dimensions in our universe,

12 * \( G = 12 * 6.6667 = 8 \) There are 8 nodes in the vibrating drum surface of the Cusack Universal Equation C.U.E.

I think all 12 dimensions can be plotted on this graph adding the derivative 2x-1 and

\[
\frac{dM}{dt} = 2, \quad E = 1, \quad M = 3, \quad c = 3 \quad E = 8, \quad m = 0, \quad dt = 1, s = 0.5, \quad dE/dt, \quad dG/dt = 2, \quad M = 4.486
\]
\[
E/G = E + G
\]
\[
l/0 = 1 + 0 \quad \text{true}
\]
\[
The \text{Energy in Q/M = 0.31514} - \pi/10
\]
\[
\forall x \quad E = \mu^* dH/dt
\]
\[
d\theta/dt * (1) = \text{cuz} * dH/dt
\]
\[
0.1334 = 0.4233 * dH/dt
\]
\[
dH/dt = \pi
\]

**Waves, Harmonic Oscillators**

\[
E = 7 = 9/26.656 + \Omega \quad \Omega = 0.2348 = 1/\text{cuz}
\]
\[
3 f = 0.4259 \quad f = 0.1420 \quad \text{cf 0.858}
\]
\[
1,7 = 0.1429 \quad \text{cf 0.857} \quad \text{E = 4 + 3 (4 loaves 3 fishes, 5 loaves 2 fishes)}
\]
\[
f = 2/3 = 6.666 = G
\]
\[
\text{Energy Quanta} = h \Omega
\]
\[
-1.25 = 6.626 \quad (\Omega)
\]
\[
\Omega = 0.1882 = d\theta/dt
\]
\[
0.1882 / 0.1334 = \sqrt{2}
\]
\[
t \times E = \sqrt{2}
\]
\[
\text{Energy Quanta} = 0 = 6.626 \quad \Omega
\]
\[
\Omega = d\theta/dt = 0
\]
\[
t = 1.618 + 0.618 = 2.236
\]
\[
\text{SPACE IS STRETCHED IN 3 D:}
\]
\[
0.618^2 = 1/\text{cuz}
\]
This is The Cusack Golden Mean Energy / Gravity Equation: K.E. / P.E. = KE + P.E. E/G = E + G dE/dt^2 = E + dE/dt This is the Cusack Differential Equation of the Universe E = E + G^2 E - E dE/dt^2 + (dE/dt)^2 = 36.78 = C1 = Cusack’s first electrodynamical constant.

\[
x = G x^2 - x - 1 = 0
\]
\[
[x^2 - X - 1]/0.618 = [x^2 - X - 1 - 0.618]
\]
\[
X^2 - X - 1 = 0.618X^2 - 0.618X - 1
\]
\[
0.382X^2 = 0.382X = 0
\]
\[
X^2 = X
\]
\[
X = X
\]
\[
X = 1
\]
\[
E = 1 = t = 1/t
\]

**Why are We Constrained by Time More than by Space?**

We know from nostradamus that we can travel through time.

\[
DE/DT = 1
\]
\[
x^3 - x - 1
\]
\[
2t - 1 = 1
\]
\[
t = 1
\]
\[
1/0.4083 = 2.449 / s = \text{T = period}
\]
\[
2.449 = 2\pi * 2.5 = 15.3886 \quad \text{cf 0.8461}
\]

**Mass and Energy**

\[
M = 4.4/E = 4.4/1.618 = 2.719 = \text{BASEC e^1}
\]

---

**The “E” in the Cusack Universal Equation is Π this Unites Q/M and Cosmology**

If you have a 3 D harmonic oscillator, it would look like a drum across the energy parabola. This is the model used in Q/M. NOTE N=3

\[
\forall x \quad E = \mu^* dH/dt
\]
\[
d\theta/dt * (1) = \text{cuz} * dH/dt
\]
\[
0.1334 = 0.4233 * dH/dt
\]
E = M/\text{base } e \\
Qu = \pi - \text{base } e \\
Qu + \text{base } e = \pi - Qu \\
E = M/[\pi - Qu] \\
\sqrt{c} = 1/\pi - Qu \\
E = 1/\sqrt{c} [\pi - Qu] \\
E^2[\pi - Qu] = \sqrt{c} \\
E = \pi - E Qu = \sqrt{c} E Qu = c - E Qu^2 c/E - \pi \\
Qu = 3 - \pi Qu = -0.14159 \\
\arcsin 0.14159 = 0.14206 \text{ rads} = 0.0226 \text{ of a cycle} \\
E = M c^2 \\
M/\text{base } e = M c^2 \\
1/\text{base } e = c^2 \\
c = \sqrt{1}/\sqrt{\text{base } e} \\
c = 1/1.618 = 0.618 \\
c = 0.618 - 1 \\
c = \text{conjugate of the golden mean} = \text{velocity} \\
\text{base } e^{0.618} = 4.4 = \text{MASS} \\
x = 1/(x-1) = 1 = E = xc E = M c^2 Mcc = xc Mc = x = 1.618 \\
1.618 = Mc \\
\text{Golden Mean} = \text{Mass} \times \text{Velocity} \\
1.618/4.4 = 1/\text{base } e \\
1.618/\text{base } e = 1 \\
M = 1/\text{base } e \\
M = 1/\text{base } e = 0.618 \\
M = [1.618 - 1]/\text{base } e \\
M = \{E/\text{base } e\} [0.618] \\
E = M base e = 0.618 \\
E = M \times 1.680 E = M c^2 c = 1.296 = 1.3 \\
c = \sqrt{1.296} \\
1.296/0.866 = 1.49/1.14 = 0.666 evil evil evil \\
E = mc^2 = 4.4 \times 9 = 39.6 \\
g/39.6 = 4.03 c \text{ Re} = 402 (\text{Reynolds's Number}) \\
4.03/402 = 0.0100 \\
0.0981/0.01 = 9.81 \\
Gravit \\
X (1.618) = 57.3^y/360 \\
X = 1.01662 \\
X = 0.0984 \\
X/g = 0.0984/9.806 = 0.0100 \\
Now, X(\Phi/100) = y x \pi - X = 0.0213 X = 0.0213/0.0213 = 1 \\
So, \\
x/g = 0.011 1/g = 0.01 \\
g = 1/0.01 = 100 \\
g = 100 \\
Ln g = Ln 100 = 4.61 \\
e4.61 = 100 \\
4.61 \times 0.0213 = 9.81 = g \\
y = 0.0213 e^x = 1/y ye^1 = \text{Energy} \\
\ln e^x = 0 = y \pi^2 = y \text{y} = 0 (\text{Quantum Number, Lowest Energy Level}) \\
M \text{L}=0 (\text{MAGNETIC QUANTUM NUMBER}) \\
M \text{S}=0 \text{ Orbital Shape} = 2S (\text{One Orbital, 2 Electrons}) \\
9.11 * 2 = 18.22 18.22 - 26.66 = 8.446 \\
\arcsin 0.8446 = 1 \text{ RADIUS TRY BeCl}_2 = 79.9278 \text{ Mass} = 4.4 \\
4.4/79.9 = 55.05 55.05 - 100 = 0.01816 1 - 0.01816 = 9.81 y \text{y}^2 = 0.45369 y/ (2n) = 0.0722 1/y = 13.85 1 - y = 0.86 e^y = 1/y = 1 = (1.618)(0.618) ye = 1 y \text{y}e/0.618 = 1.618 1/[x-1] = x \text{ This Is The Universal Equation} \\
Cusack's Universal Constant \\
C.U.C. k = 50.07 \\
P = kT = 50 \times 26.01 = 13 \\
100 - 13 = 0.86 \\
0.86 = d v = a = \sin 1 = \cos 1 = e^{0.15} \\
\text{Golden Mean} - \text{The Answer} \\
\text{The Universe exists where} , \\
YX = 1 \text{ Displacement} \times \text{Time} = 1 = \text{Energy} \\
and \\
\sin \theta = \cos \theta = e^{-x} = \text{Acceleration} = \text{Displacement} = \text{Temperature} \\
y = 1/x y' = -1/x^2 \\
y(1.618) = -0.3820 \text{rise }/\text{run} = dy/dx \\
f dy/dx = f(0.3820) \\
y = 0.3820x yx = 0.3820x^2 \\
yx = 0.3820x^2 0.3820x = 1/x = 0 \\
0.3820x = 1/x \\
x = 1.618 \text{ golden mean} \\
\text{Mass } Ln \text{ T} = M e^x = T \text{ Lm } \text{e}^x = 1.1111 = 1/9 \\
4.4 = X * 1/9 X = 39.6 = T (\text{Hz}) = T/\text{sec} = dT/dt \\
39.6 = dT/dt = 39.6 (0.4 \text{ sec}) = dT = 15.84 \\
100 - 15.84 = 0.8416 = \sin 1 \text{ rad} \\
39.6 = [1 - \sin 1 \text{ rad}]/0.4 \\
1 - \sin 1 \text{ rad} = 0.1584 \\
1 \text{ cycle } \times 0.15 \text{ cycle} = 0.1585 = \text{conjugate of universe} \\
T = 39.6 x = 39.6 x = 26.01 \\
x = 0.06568
\[1/x = \text{conjugate of universe}\]
\[1/x = [1 - 0.1618] = 1.1618\]
\[x = 0.618\]

Temperature \( P/k = T \)
\[P = kT \]
\[F = Ma = kT \]
\[M = cT/a = 4.4 = (3/0.858)^a \]
\[T = 1.25 \]
\[2T = 2.5 \]
\[T = 2.51/2 \]
\[T = 1 \]
\[t = 0.5 \text{ sec}\]

\[2T = 2.51 \]
\[Te^x = 1.25 - \ln e^x - x = 0.2231 \]
\[1/x = 4.48 = M\]

\[\ln T = M\]
\[E = Mc^2\]
\[c = \sqrt{E/m}\]

For our universe, \( k = 50.07 \times 10^29/\text{m}^3\)

\[PV = nRT = P = nR(P/k)\]
\[k = nR/V = 1/V \]
\[k = 1/V = \frac{1}{\text{m}^3}\]

For our universe, \( k = 50.07 \times 10^29/\text{m}^3\)

\[P = kT = 26.666 \times 3 = 2.96 = c = T\]

Temperature = Speed of Light
\[1 Hz = 0.4/0.4 = 1\]
\[0.4 \times 360^\circ = 0.1440\]
\[1 - 0.1440 = 0.856 = 0.86\]
\[2\pi \times 0.4 = 2.51 \times 2.51 = 0.4 = t \text{ sec}\]

**Gravity and Energy and Mass**

\[M = E = Mc^2\]
\[c^2 = \frac{E}{m}\]

\[E = Mc^2\]
\[E = 65.9 = M = 9\]
\[M = 7.3244\]

\[1/M = 0.1365\]
\[1 - 1/M = 0.8635\]

**Cusack's Universal Constant**

\[PV = nRT = P = nR(P/k)\]

\[k = nR/V = 1/V \]
\[k = 1/V = \frac{1}{\text{m}^3}\]

For our universe, \( k = 50.07 \times 10^29/\text{m}^3\)

\[PV = nRT = P = nR(P/k)\]

\[k = nR = 6.022 \times 8.31 = 6.022 \times 8.31 = 50.07\]

\[k = 50.07\]

\[E = Mc^2\]
\[c^2 = \frac{E}{m}\]

\[E = Mc^2\]
\[E = 65.9 = 9\]
\[M = 7.3244\]

\[1/M = 0.1365\]
\[1 - 1/M = 0.8635\]

**Eigenvector and Energy and Mass**

\[x = 0.203 = (1) \times 0.4083\]
\[1.203 = (1) \times 0.4083\]

\[E = \frac{\sqrt{3}}{G} = 3.85\]

\[E = \frac{\sqrt{3}}{G} = 3.85\]

\[M = 1.5\]

\[E = \frac{G}{3} = 0.86\]

\[E = \frac{G}{3} = 0.86\]

Of course I don't yet know, but I don't think there is sand outside the universe. Its just energy acceleration or gravity pulling down on the surface of the ellipsoid.

So newton gave us

\[26.666 = 6.67 \times M_1M_2 (1)\]

\[M_1M_2 = 4\]

\[M_1M_2 = 2 \times 2 = 4 = (dM/dt)^2\]

\[E = Mc^2\]

\[E = 65.9 = M = 9\]

\[M = 7.3244\]

\[1/M = 0.1365\]

\[1 - 1/M = 0.8635\]

**[V I Arnold]**

\[x = 0 = \int C \text{ Epil}\]

\[E = \int [d^2E/dt^2] = 1/ (2t-1)\]
\[2t-1=1.5\]
\[t=1/4\]
\[x^2-x-1=1.1875\]
\[1/1.1875=0.8421 \text{ cf. 0.8415}\]

the golden mean 1.618 is an eigen value of the energy equation. g is the eigen vector

from wikipedia:

\[G=1.618 \ E=8 \ G^2 +E^2=72 \ \sqrt{72}=8.485 \text{ cf. 0.8415}\]

Mass Gap
\[a^3/2! + A^3/3! \ldots\]
\[e^x=1/G=1.5=1+0.4083 + 0.0483^2/2+0.4083^3/6+0.4083^4/24=1.5030=\]

MASS GAP
\[e^x=\lim n=\infty [E / A / n] \]
So, from above \[e^x=1/G\]
\[e^x=dt [E / 0] \]
\[e^x=e^x \cdot e \]
\[e^x=e^x / d\]
\[\ln e^x=n \ln d\]
\[t=\infty (\ln 0)\]
\[t=\infty *)1\]
\[t=\infty \]
\[e^x=\infty \]
\[e^x=1/G\]
\[G=0\]

It is outside the universe
IF \[E=1\]
THEN \[e^x=\lim n=\infty [1 + t / \infty] \]

\[\lim (1)=0\]
\[f(x) = \frac{X^2-X-1}{X^2/3-X^2/2 - X^2/3} \]
\[X^2=1.618^2/3-1.618^2/2 - 1.618^2] + [0.618^2/3-0.618^2/2 - 0.618^2]=0.9607\]
\[E=Mc^2 \ 0.9607=M(\text{c})^2 \ M=0.314\]

Repulsive Energy=3.14=π
Forces up and down in balance
UP:
\[M \rho \cdot \text{volume below X axis}=3*3.14=9.42\]
\[E=Mc^2=9.42 \ (9)=84.78 \text{ cf. 0.86}\]

DOWN:
\[L=1.35 \cdot 2\pi \text{ rotation}=84.78 \text{ cf. 0.86}\]

In balance the universe is like a ship buoyant between attractive and repulsive forces. Noah's ark let call it. The critical level was when \(-e\) reached π

The universe is in the same way - repulsion and attraction.
The repulsion is 3.14=energy
The attraction is the area \(O=\pi R^2=\pi (1)=3.14\)

There must be two opposing forces. note that the attractive is stronger since \(E\) MIN=1.25 .
SO, T.E.=8 1.25/8=0.1565 CF 0.8435
1/ 0.1565=6.39 "Pregnant 3'S"

So the universal energy comes into balance (attraction and repulsion) when \(E=8, E\) MIN=1.25,
\[X^2+Y^2=R^2=\pi\]
\[2X^2=3.14159/2=X^2\]
\[X=1.2533=E_{\min}\]

The Speed of Light?
\[dM/dt=t/c\]
\[c=0.4083/c \ c=0.204 \text{ cf. 203=3}\]
\[c oz=4411764.70588 \ c oz=1.4705 \ c=1/0.6800c\]
So here we have the derivative \(x=1/2 \ E=0 \text{ the Energy} =0, x=1.618\)
The speed of the universal ellipsoid end on \(1 \times 8 \times 22\)

The shape of our universe is determined by the constant \(G\) (or \(G\) is determined by the shape!)
The slope of the integral is a vector field. slope \(m=1/1.5=G\)

The derivative of the blue function (S shaped) is 1.5 This is 1/6.667=1/G

If you look at the green function (parabola) is the shape of the universal ellipsoid end on \(1 \times 8 \times 22\)
At \(x=1, \ E=8\), we have the slope of the integral=1.5.
The shape of our universe is determined by the constant \(G\) or \(G\) is determined by the shape!
The slope of the integral is a vector field. slope \(m=1/1.5=G\)

The S shaped function is what the gravity field looks like across and outside the material universe. Note the derivative - the Energy - goes to \(1/\infty=0\).

The Universe in Totality

RECALL \(e^x=G\)
\[M \ M^* \ E=E \rho \]
\[e^G=1\]
\[e^x \ y^y=y\]

CLAIRNAUT EQUATION
\[1/G= M/E \ E' \ dM/dt \]
\[1/E'=E \ M'/E' \]
\[dE/dt=\text{E'}/M \ M' \]
\[E=G=f(E, M) \]
\[G=1/e^h * x_0 \]
If \(x_0=k=1\)
\[1/e=x/ \{f(E, M)\} \]
We know from the Cusack Gravity Equation

\[ \frac{1}{G} = M \frac{\rho}{E_{\rho}} \left( \frac{dM}{dt} \right) \]

\[ E_{\rho} = M M' \]

\[ \int E'' dm = EM = \int \left[ M M' / E_{\rho} \right] dm \]

\[ E = M^2 * 1 / E_{\rho} \]

\[ E = 2^2 * 1/4 = 1 \]

\[ E = \frac{dE}{dt} = \frac{d^2E}{dt^2} = G = 6.67 \]

Ordinary D.E

\[ t - t_0 = \frac{1}{k} \frac{d\varphi}{x_0} \]

\[ d\varphi = x_0 e^{(t-t_0)} = x_0 e^{0.4083} = 1.5 \]

\[ t - t_0 = \frac{1}{k} \frac{1}{x_0} = \frac{1}{k} \frac{1}{6.66} \]

\[ e = 1.5 e^{1/G} \ln (e^2) = \ln (1/G) t = \ln t \]

\[ \varphi(t) = e^{tx_0} = 10^{0.4083} t = 1.5 \]

\[ 1/t^2 = x_0 e^{0.4083} \]

\[ 1/1.5 = 1.5 (1) x_0 = 1/t^2 = x^2 \]

\[ \int x^2 \int \ln x^2 = 1.1597 \text{ cf. 0.84} \]

\[ E^* = 8^*0.5^*0.4083 = 1.633 \]

\[ 1/1.633 = 0.620 \]

The derivative of the Energy function at \( x = 0.81 \) is \( \sqrt{-1} \) So the slope of the tangent to the universal function is \( \sqrt{-1} \)

\[ 1/81 = 0.12345679 \]

\[ \Delta N = 7.6 - 5.4 - 3.2 - 1.0 = -16 \]

\[ 9 - 7 = 2 = G = d^2E/dt^2 = dM/dt \]

So the equation of the universe crests over at \( d^2E/dt^2 \) or \( dM/dt \) or \( G \)

\[ x^2 - x - 1 = 2 = G \]

\[ (2^2 - 2/G) = 3 \]

\[ G = 6.67 \]

\[ \Delta N = 1/8 = 0.125 \]

\[ 2/8 - 1/8 = 1/8 = \Delta N \]

\[ \Delta N = K.E./[P.E+K.E.] \]

\[ 0.125 = \Delta N = 1/[mgh + 1] \]

\[ 0.125 = 1/\{x+1\} \]

\[ 0.125x + 0.125 - 1 = 0 \]

\[ x = 7 \]

Now \( 1/0.806 = 1.2407 \)

\[ 1.2407 - (-1.25) = 2.4907 = T \text{ Period} \]

\[ 1/T = t = 0.4015 \text{ cf. 0.4083} \]

So, there are 8 steps to get to cresting over to 2. 1/0.125 x = 2

\[ x = 4 = E \]

So when the Energy density = 4, the universe comes into existence.

\[ x^2 - x - 1 = 0 \]

\[ \delta E = \delta t = 1/t = E \]

\[ E = 8 = 1/0.125 \]

\[ 1/0.125 = 0.8 \]

\[ 0.8^2 - 0.8 - 1.24 = -1.25 \]

\[ 1/t = 1.24 = 0.806 - 81 \]

\[ 1/81 = 0.012345679 \]

\[ y = mx + b \]

\[ y_1 = \infty / 0 \]

\[ y_2 = 0 \]

\[ y = y_2 \infty / 0 = x = 0 \]

\[ z = 0 \]

The physical Universe begins at the origin and continues for infinity.

**Cusack's Constant**

\[ X = 1/(X - 1) \]
X - \frac{1}{(X-1)} = 0

\sqrt{\frac{1}{3.666}} = \sqrt{0.7272} = 0.85

[\sqrt{X - \frac{1}{(X-1)}}] = \sqrt{0} = 0

[\sqrt{X - \frac{1}{(X-1)}}] \cdot \sin 1 = 0

[\sqrt{X - \frac{1}{(X-1)}}] = \sin 1

X - \frac{1}{(X-1)} = 0.72

X - \frac{1}{(X-1)} = 0.7272 = 0

X = 1.873 = CUSACK'S CONSTANT

\frac{X}{c} = \frac{1.873}{2.985}

\sin^3 \theta = \frac{1.873}{2.985} = (0.8471^3)

\theta = 1 \text{ rad}

c = \frac{1.873}{\sin^3 \theta}

CUSACK's Constant = 1.873

\ln (1.873) = \sin^3 1 \text{ RAD}

\ln (1.873) = \int [\sin \theta \cdot \cos \theta \cdot e^{-x}] = \text{NmK}

\frac{1}{\text{CUSACK Constant}} = 0.534 \text{ (APRIL 3, 2005)}

y = \sin \theta + \cos \theta

y' = -\cos \theta + \sin \theta + C

\max \text{ /min } y' = 0

y'' = 0 = \sin \theta - \cos \theta

\sin \theta = \cos \theta

\theta = 1 \text{ rad}

\cos \theta = \frac{d}{d \sin \theta} = \frac{F = Ma}{d = F = Ma}

d = a \cdot M = 1 = E \text{ (minimum energy)}

E = Mc^2 \ 1 = d/a \cdot c^2 \ c^2 = 1

c = 1

**Golden Mean**

To sum up, if we take the three functions representing force, displacement, and temperature, we have the following:

y = e^{0.14} + C3

y = \sin 1 + C2

y = \cos 1 + C1

C1 = C2 = C3 = 1 = Energy

Take the derivative of one function:

y = \cos \theta + 1

y' = -\sin 1 + 1 = -0.858 + 1 = 0.142

y'' = y = e^{0.14} + E = 0.14 + 1.14 + E = 1 \text{ when } y = y''

\int \sin 1 + \int \cos 1 + \int e^{0.14} = \cos 1 + \ln 1.14 = -0.86 + 0.86 + 0.1327 = 0.1327 = 1 \cos 1 = E - a = E - v = E - d = E - T

a = v = d = T \text{ acceleration} = \text{velocity} = \text{displacement} = \text{temperature}

The temperature of space is -236° C cf -270 °

This is the condition under which the universe exists.

**Conclusion**

Astro-Theology, Cusack's Universe provides a new way of looking at our stable universe.

**References**