

Zaman's giant $E = MC^2$

Author: Maher Ali Rusho

Abstract:

Equations! The one word that can describes everything . It is a real world magic . One can just feel it but can't touch ,can't talk . All equation already exists in nature , but you have to discover it to see it's beauty , it's purity . But this tiny baby like things can also be very harmful .

Like $E=MC^2$. this one equation 2 millimeter in size can destroy the whole nature, you will see some beauty unique series equation that I have discovered throughout this paper . Some ideal series where infinity become friend with finite and become a superposition with finite-Infinite euler series . I am going to dedicate this paper in the fate of my grand-father Mr.Zaman a successful school teacher in his career and a successful father who told me if I become a professional scientist he will give me his half property as a gift . But I think I deserve his full property !!!!!

Keywords::

In this paper I use following symbols to clarify the equation.

- (1) The symbol (\wedge) represent the power
- (2) The letter "Pi" represent the pie symbol!
- (3) 'e' represent the euler number
- (4) Symbol '*' represent the multiplication symbol

Introduction :

We know two beautiful law about euler number one is called the beautiful equation in math and other is the infinistimal expansion of euler number . from this two basic and beautiful equation we are going to discover anther new equation. . from that equation we will see the nature in mathematical series . .-----

$e^{i\pi} + 1 = 0$ ---- (Euler identity , the beautiful equation in math) - (1)*

$e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \frac{x^5}{5!} + \dots$

..... {Expansion of euler series) --- (2)

We will at first use equation no:2 and substitute

*$e^{e^{e^{e^{e^{e^{e^{\dots}}}}}}}}$ groundbreaking
 infinity e's in the symbol of equation 2 (x).*

Then new series become

$$e^{e^{e^{e^{e^{e^{\dots}}}}} = 1 + e^{e^{e^{e^{e^{e^{\dots}}}}} + \frac{(e^{e^{e^{e^{e^{e^{\dots}}}}})^2}{2!} + (e^{e^{e^{e^{e^{e^{\dots}}}}})^3}{3!} + \dots \quad (3)$$

*since this are infinity e's we can cancel
 $e^{e^{e^{e^{\dots}}}}$ from both side .*

Then new equation become =>

$$0 = 1 + (e^{e^{e^{e^{e^{e^{\dots}}}}})^2 / 2! + (e^{e^{e^{e^{e^{e^{\dots}}}}})^3 / 3! + \dots \quad (4)$$

And now we are going to use equation number

(1) $e^{i\pi} + 1 = 0$ and substitute it in eq(2).

It becomes =>

$$e^{i\pi} + 1 = 1 + (e^e e^e e^e e^e e^e \dots)^2/2! + (e^e e^e e^e e^e e^e e^e \dots)^3/3! + \dots$$

____(5)

Now we can cancel '1' from both side it become

=>

$$e^{i\pi} = (e^e e^e e^e e^e e^e \dots)^2/2! + (e^e e^e e^e e^e e^e e^e \dots)^3/3! \dots (6)$$

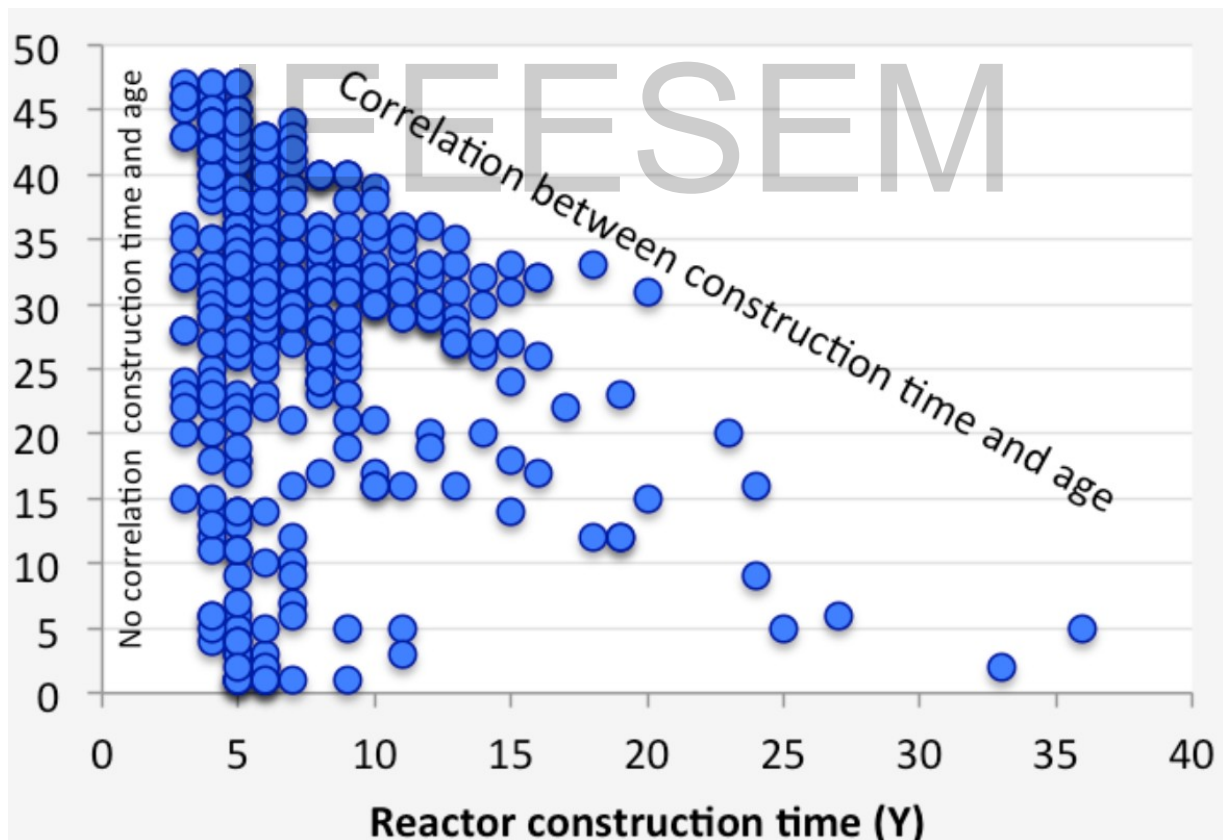
we then again use equation (2) but in this time we will substitute $i\pi$ in x . it become

$$e^{i\pi} = 1 + i\pi - \pi^2/2! + i\pi^3/3! - \pi^4/4! + \dots (continued)$$

$$-)^{4/4!} + (e^{e^{e^{e^{e^{e^{e^{e^{e^{e^{e^{e^{\dots}}}}}}}}}}}}})^{5/5!} + \dots$$

What a weird think it is !!! It seems that its has infinity times infinity but it can result a finite number also!!!!!!

It has some interesting property also . If we run this in a computer program it seems that



Source : <http://euanmearns.com/how-long-does-it-take-to-build-a-nuclear-power-plant/>

It is a construction time of a nuclear reactor !!! We can also run in python turtle program It gives the same result !

Resources:

[1] https://en.wikipedia.org/wiki/Euler%27s_identity

[2] Ramanujan's Notebooks 1

[3] *Summation of series books*

[4] *A synopsis of pure and applied Mathematics*

[5] <http://euanmearns.com/how-long-does-it-take-to-build-a-nuclear-power-plant/>

[6] [https://www.investopedia.com/terms/e/eulers-constant.asp#:~:text=Euler%27s%20number%20is%20an%20important,repeat%20\(similar%20to%20pi\).](https://www.investopedia.com/terms/e/eulers-constant.asp#:~:text=Euler%27s%20number%20is%20an%20important,repeat%20(similar%20to%20pi).)

[7] <https://www.mathway.com/Algebra>

[8] <https://photomath.com/en/>

[9] <https://paw.princeton.edu/article/mind-mathematician>

[10] <https://paw.princeton.edu/article/mind-mathematician>

[11] A method of doing pure and applied mathematics written for dhaka university B.SC students

[12] [https://en.wikipedia.org/wiki/Lagrange_multiplier#:~:text=In%20mathematical%20optimization%2C%20the%20method,chosen%20values%20of%20the%20variables\).](https://en.wikipedia.org/wiki/Lagrange_multiplier#:~:text=In%20mathematical%20optimization%2C%20the%20method,chosen%20values%20of%20the%20variables).)

[13] [https://en.wikipedia.org/wiki/Laplace_transform#:~:text=In%20mathematics%2C%20the%20Laplace%20transform,%2C%20or%20s-plane\).](https://en.wikipedia.org/wiki/Laplace_transform#:~:text=In%20mathematics%2C%20the%20Laplace%20transform,%2C%20or%20s-plane).)

[14] <https://youtu.be/McOc6OUC7Pc>

[15] <https://www.khanacademy.org/math/ap-calculus-bc/bc-series-new/bc-10-14/v/euler-s-formula-and-euler-s-identity#:~:text=Euler%27s%20formula%20is%20e%3Dcos,things%20in%20all%20of%20mathematics!>