

Some of my friends were discussing the 137 fine line constant described here:

<https://bigthink.com/surprising-science/why-the-number-137-is-one-of-the-greatest-mysteries-in-physics>

$e^2 = hc/137$ or $e^2/hc = 137$ why?

The 137 is dimensionless. e is the electron's charge, h is Planck's constant, and c is speed of light.

While bike riding this morning Nov 6, 2018 I did some conversion in my head on what this might mean.

E energy = hf where f is frequency in cycles per second and h is Planck's constant.

so $h = E/f$ and E for charge on a sphere is V voltage times e charge coulombs.

so $h = Ve/f$

then $137 e^2 = Ve/f$ times $c = Ve$ seconds / cycle times meters per second

$e^2 = Ve$ times wavelength or distance r meters.

cancel out the e and we have

$e = V r$

But this is just the formula of

$Q = CV$ for charge and voltage

furthermore the formula $e = V r$ is the energy in a shell of charge if the r represents the radius r

so for a sphere with charge e on it and radius r the formula is

$e = 4 \pi \epsilon r V$ where ϵ is the permittivity of free space

but this is the same formula structure we started with $e^2 = hc/137$

So we can say that the 137 constant comes from a spherical ball of charge in which the $e = V r$ holds true.

The reason charge is a constant is because as the voltage V increases as the radius of the sphere decreases.

This suggests to me that what is warping space is the permittivity ϵ as V increases.

The permittivity ϵ gradient might be able to explain QED and gravity forces.

I have a derivation showing the permittivity gradient is in agreement with gravity whereas permeability is not.

Now all we need to do is find the exact formulas.

Gene Preston

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