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I. Abstract

The calculation of the Planck constant has been elusive. Here it is shown, thanks to the Rydberg constant and the equation for force of charge. The equation shows that the fundamental constants are likely from a very complex yet consistent action of the aether.

II. Calculations

It is known that the Rydberg infinity constant is the most precise physical measurement in physics and that it can also be calculated from fundamental constants and the mass of the electron. It's value is shown below

Equation 1.0 $$R = \frac{Meq^4}{8\varepsilon^2 h^3 c} = 1.0973731568539 * 10^7\, m^{=1}$$

We found from "Discrete Calculations of Charge and Gravity with Planck Spinning Spheres and Kaluza Spinning Spheres", Michael John Sarnowski (2) that the following equation for q, $q^2 = T\pi^3 hc\varepsilon(Me)/2Mn$ modeled Discrete unit charge. We can rearrange the equation for elementary charge and the equation for the Rydberg constant as follows.

Equation 2.0 $$\frac{q^4}{\varepsilon^2} = \frac{8Rh^3 c}{Me}$$

Equation 3.0 $$\frac{q^2}{\varepsilon} = \frac{T\pi^3 hcMe}{2Mn}$$

Equation 3.0 can then be squared and equalized and then solved for h which yields

Equation 4.0 $$h = \frac{T^2\pi^6 cMe^3}{32Mn^2 R} = 6.62606935 * 10^{-34}\ joulesec$$

This compares to the codata value of $6.62606957(30) * 10^{-34}\ joulesec$

The value from equation 4.0 is within one standard deviation of the Codata value.

Note the following

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1) $$T^2 = \frac{(Mp - Me)^2 + Mn^2 + Mn^2}{Mn^2}$$

2) Where h=planck's constant, c=speed of light in a vacuum, G=gravitational constant, and Mn=rest mass of the neutron, Mp=rest mass of the proton, and Me=rest mass of the electron and R=Rydberg constant.

III Discussion

The equation for Planck's constant

$$h = \frac{T^2 \pi^6 cMe^3}{32 Mn^2 R}$$

or

$$R = \frac{T^2 \pi^6 cMe^3}{32 Mn^2 h}$$

Shows that Planck's constant may be a very integrated and complicated number. Note that the Planck constant and Rydberg constant appear to be inversely proportional in this equation. Whereas, the original definition for R, $R = \frac{Meq^4}{8\varepsilon^2 h^3 c} = 1.0973731568539 * 10^7 m^{-1}$, shows the Rydberg constant to be inversely proportional to the cube of the Planck constant. Hopefully someone finds this calculation/definition of Planck's constant useful and interesting. I think, that if the value "T" is relevant, then it might help clear up some confusion over how one constant is related to another.
Notice that in one equation for the Rydberg constant the Rydberg constant is proportional to the speed of light, and in the other it is inversely proportional.

Appendix A

Fundamental Physical Constants (18)

1. c=2.99792458 * 10 Exp 8 m/s
2. h=6.626 06957(33) x 10^{-34} J s
3. Mass of Neutron = Mn= 1.674 927 351(74) x 10^{-27} kg
4. Mass of Proton = Mp= 1.672 621 777(74) x 10^{-27} kg
5. Mass of Electron = Me = 9.109 382 91(40) x 10^{-31} kg.

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6. q = unit charge = 1.602 176 565(35) x 10^{-19} C
7. ε = Dielectric Permittivity = 8.854187817 * 10 Exp –12
8. G= 6.67384(80) x 10^{-11} m^3 kg^{-1} s^{-2}
9. T= 1.730942781 where

$$T^2 = \frac{((Mp - Me)^2 + Mn^2 + Mn^2)}{Mn^2}$$

10.0 $$R = \frac{Meq^4}{8\varepsilon^2 h^3 c} = 1.0973731568539 * 10^7 m^{=1}$$

Definitions

References

1) http://en.wikipedia.org/wiki/Rydberg_constant
2) http://www.vixra.org/pdf/1403.0502v5.pdf