

The Case of G, the Universal Constant

By Professor Joe Nahhas 1979



Abstract: If we take a look at the most famous physics fundamental constant G from Newton's - Kepler's 350 years old Equation $F = - GmM/r^2$ one can see that its value has unit dimension of $[G] = [1/\rho T^2]$; ρ is density and T is time. T or time is a scale and will not affect the value of G and Earth density taken as constant and not changing to affect the value of G then what is left to relate the value of G? Earth is air density and T would be rotational period. If we can show that $G = G(\rho, T)$ as a variable air density and Earth's rotational period dependent, then we can say what Earth is saying that the most famous physics fundamental constants are not so constant.

Proof: $G = G(\rho, T) = (15/8 \pi) \{ \text{Exp} [(-5/2) (\rho / \rho (e))] \} / \rho T^2$; **Exp = Exponential**
 Nothing that: $15 / 8 \pi = 5/2 (4\pi/3)$; $4\pi/3$ and $5/2$ come from spherical aspect
 Where: ρ = air density; T = Earth rotation period; $\rho (e)$ = Earth density = 5520kg/m^3

Taking T = 23.933333333 hours and $\rho = 1.2041 \text{ kg/m}^3$

1979 data

$$G = (15/8 \pi) \{ \text{Exp} [(-5/2) (\rho / \rho (e))] \} / \rho T^2$$

$$= 6.673299652 \times 10^{-11}$$

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