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Velocities of Rotation VS Radius

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Abstract :

I have taken the conclusions from my first research paper (Ref : "The Concept of time length and mass") . Which say that the time , distance and mass units are dependent on the energy and force fields and the relative velocity of light received from them. Here I have tried to calculate the rotational velocity of an enclosed field w.r.t its radius.

Introduction:

I have proved in my previous research papers (Ref : "The Concept of time length and mass") that the time and distances are not absolute but vary w.r.t the Energy and Force fields and also the velocity of light received by them. The units of time and distance could also be dependent on the frequency and wavelength of electromagnetic radiation emitted by it, which in turn is dependent on the perceived increase/decrease in frequency of received ray of light as seen in the research paper - Alternative proof of Lorentz- Fitzgerald transformation equation.

In my first research paper I have defined distances as.

$$d = \text{forth root} \left(\frac{E^2}{FD} \right) \qquad \text{----------} \quad 1$$

And time as $t = E/F$

In my second research paper I have proved that the speed of light is relative but because of doppler effect it affects the time and distance perceptions of a particular frame of reference.

Let us consider that the basic units of time and distances are frequency and wavelength respectively. We also know that all bodies are associated with de' broglies waves. We can consider a simplified format for representation namely,

$d = \lambda = c/f$

or,

$d = ct$ ---------- 2

Substituting in 1 we get,

$ct = \text{forth root} \left(\frac{E2}{FD} \right)$

$c^4t^4 = \frac{E^2}{FD}$

Considering, $F = \frac{dE}{dt}$

$c^4t^4 \frac{dE}{dt} = \frac{E^2}{D}$

$Dc^4 \frac{dE}{E^2} = \frac{dt}{t^4}$

Considering D or density of an enclosed space and which remains constant for a particular energy and force fields we can write.

$Dc^4 \text{ Integral } (dE/E^2) = \text{integral}(dt/t^4)$

$Dc^4 (-1/E) = (-1/3)t^3$

Considering $t = \lambda /c$

And $E = \frac{Mc^2}{v}$ ---------- (Ref : Concept of time, length and mass)

We get

$D = \frac{3M \cdot c^2}{cv \cdot \lambda^3}$

But D = M/Vol

$\frac{M}{Vol} = \frac{3M \cdot c^2}{cv \cdot \lambda^3}$

Or

$Vol = \frac{v * \lambda^3}{3c}$

Volume of a spherical surface = $4/3\ \pi\ r^3$

$\frac{4}{3}\pi r^3 = \frac{v * \lambda^3}{3c}$

Or,

$v = r^3 (4\pi c / \lambda^3)$

So the velocity of rotation of an enclosed surface seems to be directly proportional to its radius cube.

This can be observed by the velocity of rotation of planets around its axis. Jupiter with the largest radius rotates at 48,583 km/hr, Hence it completes one whole day and night cycle in just 9hrs, 55 min, Where as

mercury(58 days , 16hrs) , venus(243 days , 26 min) and pluto(6 days , 9 hrs , 17 min) take much longer duration to rotate around itself.

Conclusion : Overall we can conclude that the frequency and wavelength emitted by an object determines the time and distance units for that object. This was proved by the velocity of rotation of enclosed bodies which was directly proportional to the cube of their radius. And the startling relation between v and r within our solar system stands testimony to it.