VELOCITY SQUARED PROBLEM CRACKED

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Acceleration involves velocity squared by radial distance. Radial distance is easy to measure and is an established concept. However, velocity squared is solved, now.

Consider the experimentally determined velocity of Hydrogen molecules at 300 kelvin.

Consider hydrogen molecules with mass

$$m_H = 2 \times 1.67262158 \times 10^{-27} = 3.34524316 \times 10^{-27} \text{ kg}$$

at temperature $T = 300 \text{ K}$. Their average velocity v_{avg} can be determined by the kinetic energy relationship:

$$KE = \tfrac{3}{2} k_B T = \tfrac{1}{2} m_H v_{avg}{}^2$$

$$v_{avg} = \sqrt{3 k_B T / m_H}$$
$$\Rightarrow \quad = \sqrt{3 \times 1.380676 \times 10^{-23} \times 300 / 3.3452 \times 10^{-27}}$$
$$= 1927.31 \text{ m/s}$$

Energy is expressed in the various structures that constitute the H-molecule.

$$m_{H_2} \times 1927.31^2 = m_{Temp} \times c^2 = m_{186} \times v^2 = 3k \times 300 = hf$$

Notice that there are 3 masses involved- The hydrogen molecule, the temperature photon and 186-ether.

$$G = \frac{r}{m_{Temp}} \times v^2 = \frac{1.380668031 \times 10^{-36}}{1.382580326 \times 10^{-37}} \times v^2$$

$$q^2 = m \times r \times 10^7$$

Utilizing the charge squared formula above, the corresponding radii for the 3 masses are,

$$r_{H_2} = 7.673488995 \times 10^{-19} m$$
$$r_{186} = 1.380668031 \times 10^{-36} m$$
$$r_{Temp} = 1.856651353 \times 10^{-8} m$$

The frequency of the temperature photon,

$$f = 1.875321811 \times 10^{13} Hz$$

The frequency of the oscillator including a rotation of the 186-torus,

$$f^\bullet = 2\pi \times 137.036 \times 1.875321811 \times 10^{13} Hz$$
$$f^\bullet = 1.614694427 \times 10^{16} Hz$$

Inverse of frequency is time period,

$$t^2 = \frac{1}{f^{\bullet 2}} = 3.835476334 \times 10^{-33} s^2$$

The velocity squared of a H-molecule at 300 kelvin,

$$v^2 = 1927.31^2 = \frac{r_{H_2} \times r_{Temp}}{t^2}$$

Conclusion

The velocity squared of a hydrogen molecule is determined by the temperature photon and the radius of the H-molecule. Discussed in-depth in earlier papers is the 186-ether which is the reason for Brownian motion, in this case the motion of H-molecules.

Newton's G is one of the greatest constants that unifies ether and matter, gravity and electromagnetism, force as temperature.

Acceleration is velocity squared by radial distance. The source of acceleration is revealed.