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Diverse Untouchable Mass Obeying Newton's Law of Gravitation

Janez Špringer*

Cankarjeva cesta 2, 9250 Gornja Radgona, Slovenia, EU

Corresponding Author:** ***Janez Špringer, *Cankarjeva cesta 2, 9250 Gornja Radgona, Slovenia, EU*

Abstract: *The diverse untouchable mass obeying Newton's law of gravitation has been discussed.*

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1. Introduction

The diverse untouchable mass obeying Newton's law of gravitation will be discussed.

2. Newton's Law of Gravitation

According to Newton's law of gravitation put forward in 1687 any particle of matter in the universe attracts any other with a force varying directly as a product of the masses and inversely as the square of the distance between them. In symbols, the magnitude of the attractive force F is equal to gravitational constant G multiplied by the product of the masses m_1 and m_2 and divided by the square of the distance R [1]:

$$F = G\frac{m_1 . m_2}{R^2}. \tag{1}$$

3. The Diverse Untouchable Mass

In accordance with Heraclitean dynamics a pair of masses m_1 and m_2 is available for any particle of matter at zero work. The diverse untouchable mass m is geometric mean of that pair of masses being nominally equal the square root of ratio of Planck's constant h and the speed of light c [2]:

$$m = \sqrt{m_1 . m_2} = \sqrt{\frac{h}{c}}. \tag{2}$$

4. The Validity of Newton's Law of Gravitation

Applying Newton's law of gravitation (1) we see that pair of masses m_1 and m_2 at infinite distance R do not attract each other anymore since the attractive force F between masses vanishes:

$$0 = G\frac{m_1 . m_2}{\infty^2}. \tag{3}$$

But the loyalty of pair to the gravitational law remains by tending to occupy the closer mutual distance at any chance. This can be illustrated by the gravitational energy E released (negative sign) when the masses m_1 and m_2 approach each other, and a closer approach (higher $1/R$) is accompanied by the greater gravitational energy release (higher E) [3]:

$$E = -G\frac{m_1 . m_2}{R}. \tag{4}$$

The validity of Newton's law cannot be verified for zero distance because the two masses cannot exist at the same point. Kneading to nothing would otherwise release infinite energy, which would have to return when stretched again.

5. The Minimum Distance

The minimum distance between pair of masses is finite. A pair of masses m_1 and m_2 can be regarded as a pair of spheres with the radii R_1 and R_2 and the minimum distance between these spheres $R_{minimum}$ is their sum $R_1 + R_2$ which for the diverse untouchable mass m nominally equals the sum of masses m_1 and m_2 divided by 2π (See Appendix 1):

$$R_{minimum} = R_1 + R_2 = \frac{m_1 + m_2}{2\pi}. \tag{5}$$

6. The Limited release of Gravitational Energy

The limited release of gravitational energy $E_{limited}$ of pair of masses m_1 and m_2 of the diverse untouchable mass m is in inverse proportion with the sum $m_1 + m_2$ (See Appendix 2):

$$E_{limited} = -\frac{2\pi Gh}{c}\frac{1}{m_1 + m_2}. \tag{6}$$

This means that the most diverse pair of masses $(m_1 = 0;\ m_2 = \infty)$ cannot release any gravitational energy (6):

$$E_{limited}(0;\infty) = -\frac{2\pi Gh}{c}\frac{1}{0 + \infty} = 0. \tag{7}$$

And the pair of equal masses $\left(m_1 = m_2 = m = \sqrt{\frac{h}{c}}\right)$ can offer the greatest release of gravitational energy (6):

$$E_{limited}\left(\sqrt{\frac{h}{c}};\sqrt{\frac{h}{c}}\right) = -\frac{2\pi Gh}{c}\frac{1}{\sqrt{\frac{h}{c}} + \sqrt{\frac{h}{c}}} = \pi G\sqrt{\frac{h}{c}} = 3.117\ 261\ 671\ x\ 10^{-31} J. \tag{8}$$

7. The Loss and Recovery of Untouchability

A pair of masses m_1 and m_2 of any particle of matter can as geometric mean express untouchable mass m at infinite mutual distance. Due to Newton's gravitational law the masses tend to approach each other to a finite minimum distance. When the tendency is realized, the gravitation energy is released. But on finite mutual distance the untouchable geometric mean of masses $m = \sqrt{m_1 . m_2} = \sqrt{\frac{h}{c}}$ should become - after the general experience of adding masses - an ordinary touchable sum of masses $m = m_1 + m_2 \neq \sqrt{\frac{h}{c}}$. The release of gravitational energy is therefore accompanied by the loss of untouchability. Of course, receiving that energy again can restore untouchability.

8. Conclusion

According to the present theory very low energy of less than 3.117 x 10^{-31} J is enough to maintain untouchable matter.

Addendum

We cannot see the frequency of such weak (ELF) electromagnetic waves. But we can hear it as energetically much stronger but calming $\leq 470\ Hz$ rain noise [4].

Dedication

To rainy night and good morning [5]

APPENDIX 1

Sphere radius R of a mass particle m is defined as reduced Compton wavelength $\frac{\lambda}{2\pi}$

$$R = \frac{\lambda}{2\pi}. \tag{a}$$

The minimum distance between pair of masses is sum of their sphere radii

$$R_{minimum} = R_1 + R_2 = \frac{\lambda_1}{2\pi} + \frac{\lambda_2}{2\pi}. \tag{b}$$

Taking into account $\lambda = \frac{h}{mc}$ we have

$$R_{minimum} = \frac{h}{2\pi m_1 c} + \frac{h}{2\pi m_2 c} = \frac{h}{2\pi c}\left(\frac{1}{m_1} + \frac{1}{m_2}\right) = \frac{h}{2\pi c}\left(\frac{m_1 + m_2}{m_1.m_2}\right). \tag{c}$$

Recalling the relation (2) to see $m_1 m_2 = \frac{h}{c}$ we get what we were looking for

$$R_{minimum} = \frac{h}{2\pi c}\left(\frac{m_1 + m_2}{\frac{h}{c}}\right) = \frac{m_1 + m_2}{2\pi}. \tag{d}$$

APPENDIX 2

The limited release of gravitational energy $E_{limited}$ is determined by the minimum distance between the pair of masses

$$E_{limited} = -G\frac{m_1.m_2}{R_{minimum}}. \tag{e}$$

Inserting $R_{minimum} = \frac{m_1+m_2}{2\pi}$ (d) we have

$$E_{limited} = -G\frac{m_1.m_2}{\frac{m_1 + m_2}{2\pi}} = -2\pi G\frac{m_1.m_2}{m_1 + m_2}. \tag{f}$$

And replacing $m_1 m_2$ with $\frac{h}{c}$ (2) we can write

$$E_{limited} = -2\pi G\frac{\frac{h}{c}}{m_1 + m_2} = -\frac{2\pi Gh}{c}\frac{1}{m_1 + m_2}. \tag{g}$$

REFERENCES

[1] Newton's law of gravitation | Definition, Formula, & Facts | Britannica. Retrieved July 2023

[2] Janez Špringer (2022) "Diverse Untouchable Mass in Heraclitean Dynamics (Counting on Double Surface)" International Journal of Advanced Research in Physical Science (IJARPS) 9(11), pp.17- 22, 2022.

[3] https://en.wikipedia.org/wiki/Gravitational_energy. Retrieved July 2023

[4] Relaxing Music & Soft Rain: Sleep Music, Calm Piano Music, Healing Music, Peaceful Music ★149 - YouTube. Retrieved July 2023

[5] https://www.funkymorning.com/rainy-good-morning-images/. Retrieved July 2023

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