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Alignment Energy of Diverse Untouchable Electron Mass

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Abstract: *The alignment energy of a diverse untouchable electron mass In Heraclitean dynamics has been calculated.*

Keywords: *Alignment energy, diverse untouchable electron mass, Heraclitean dynamics, extremely low frequency electromagnetic waves*

1. Introduction

In the previous paper [1] the diverse untouchable mass m of the ordinary matter m_1 being defined in Heraclitean dynamics as $m = \sqrt{m_1.m_2} = \sqrt{\frac{h}{c}}$ (with m_2 as a co-mass) has been proposed. Such a mass should be sustained by the alignment energy $E_{alignment} = \left(\frac{R_{unaligned}}{R_{aligned}} - 1\right) m_1 c^2$ where, firstly, $R_{unaligned} = \frac{m_2}{m_1} s(1) = \frac{m^2}{m_1^2} s(1)$ being the unaligned ratio of co-mass m_2 to mass m_1 counted on the double surface by considering the corresponding unit $s(1) = \left(2 - \frac{1}{\sqrt{1+\pi^2}}\right)$ and, secondly, the aligned ratio $R_{aligned}$ being taken for large numbers as the round down value of the unaligned ratio $R_{aligned} \cong round\ down\ (R_{unaligned})$.

The alignment energy of the diverse untouchable electron mass in Heraclitean dynamics is the subject of interest of this paper.

2. The Diverse Untouchable Electron mass

Inputting data from reference [2] into formulas from Section 1 we find the alignment characteristics of the diverse untouchable electron mass $m = \sqrt{m_{electron} \cdot \frac{\frac{h}{c}}{m_{electron}}}$.

Thus, with the help of data

$h = 6{,}626\ 070\ 15\ .\ 10^{-34} Js.$ (1)

$c = 2{,}997\ 924\ 58\ .\ 10^{8} ms^{-1}.$ (2)

$Da = 1{,}660\ 539\ 066\ 60\ .\ 10^{-27} kg.$ (3)

$m_{electron} = 0{,}000\ 548\ 579\ 909\ 065(16)$ Da. (4)

$m = \sqrt{\frac{h}{c}} = 1{,}486\ 680\ 56\ .\ 10^{-21} kg = 895\ 299{,}961\ 438\ 727\ 651\ 893\ 487\ 797\ 102\ 67$ Da. (5)

And

$s(1) = 1{,}696\ 685\ 528\ 946\ 647\ 135\ 980\ 275\ 923\ 944\ 9 \ldots$ (6)

The unaligned ratio of the electron diverse untouchable mas is given:

$R^{\ electron}_{unaligned} = \left(\frac{\mathrm{m}}{m_{electron}}\right)^2 . s(1) = 4\ 519\ 170\ 127\ 823\ 110\ 268{,}34.$ (7)

But unfortunately, the precision on the decimal place is absent due to in the calculation applied insufficiently accurate data. So for the unaligned ratio of the electron diverse untouchable mas we can only estimate:

$$4\,519\,170\,127\,823\,110\,268 < R\,^{electron}_{unaligned} < 4\,519\,170\,127\,823\,110\,269. \quad (8)$$

Regardless, the aligned ratio of the electron diverse untouchable mass remains the same (See appendix):

$$R\,^{electron}_{aligned} \cong 4\,519\,170\,127\,823\,110\,268. \quad (9)$$

So, the alignment energy of the electron diverse untouchable mas can be estimated as follows:

$$m^{electron}_{alignment} < \left(\frac{4\,519\,170\,127\,823\,110\,269}{4\,519\,170\,127\,823\,110\,268} - 1\right).0{,}000\,548\,579\,909\,065\ \text{Da} = 1{,}214.10^{-22}\text{Da}. \quad (10)$$

This gives the energy of the diverse untouchable electron mass in the next range:

$$0 < E^{electron}_{alignment} < 1{,}13\,.10^{-13}\ eV. \quad (11)$$

Then for energy equivalents we have, for frequency:

$$0 < \nu^{electron}_{alignment} < 27.34\ Hz. \quad (12)$$

And for wavelength:

$$\infty > \lambda^{el.ectron}_{alignment} > 10\,965\ km. \quad (13)$$

Some alignment characteristics of the diverse untouchable electron mass are collected in Table 1.

Table1. *Some alignment characteristics of the diverse untouchable electron mass*

$m_{electron}$	$R_{unaligned}$	$R_{aligned}$	$m_{alignment}$	$\nu_{alignment}$
0,000 548 579 909 065 Da	< 4 519 170 127 823 110 269	4 519 170 127 823 110 268	< 1,214. 10^{-22}Da	< 27,34 Hz

The calculated alignment energy $E^{electron}_{alignment} < 1{,}13\,.10^{-13}\ eV$ (11) of the diverse untouchable electron mass $m = \sqrt{m_1.m_2} = \sqrt{m_{electron}.\frac{\frac{h}{c}}{m_{electron}}} = \sqrt{\frac{h}{c}}$ is interesting since its frequency equivalent being $\nu^{electron}_{alignment} < 27.34\ Hz$ belongs to extremely low frequency (ELF) radio waves which are otherwise generated by lightning and natural disturbances in Earth's magnetic field. [3]

3. Conclusion

The alignment energy of a diverse untouchable electron mass In Heraclitean dynamics belongs to ELF electromagnetic waves.

Dedication

To enlightenment in anticipation of a merry Christmas

Figure1. *Enlightenment [4]*

REFERENCES

[1] 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.

[2] https: //www.nist.gov/programs-projects/codata-values-fundamental-physical-constants. Retrieved november 2022.

[3] https://en.wikipedia.org/wiki/Extremely_low_frequency. Retrieved November 2022.

[4] https://www.historytoday.com/archive/review/now-we-can-see. Retrieved November 2022

APPENDIX

For on the double surface aligned large ratio holds [1]:

$$R_{aligned} = n\left(2 - \frac{1}{\sqrt{1+\frac{\pi^2}{n^2}}}\right) \cong n \in \mathbb{N}. \qquad (a)$$

If a regular calculator does not detect the difference between $\approx$ and $=$ we can use a trick with a friendlier formula

$$R_{aligned} \cong n\left(1 + \frac{1}{2}\ \frac{\pi^2}{n^2}\right) \cong n \in \mathbb{N}. \qquad (b)$$

If even now we do not perceive the difference between $\cong$ and $=$ for large numbers (as in our case where $n = 4\ 519\ 170\ 127\ 823\ 110\ 268$) we can apply the relation

$$R_{aligned} \cong ROUNDDOWN(R_{unaligned}) = n \in \mathbb{N}. \qquad (c)$$

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