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# Neutrino Kinetic Energy in Heracletean World

# (Second Side of Fragment)

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**Abstract:** *Respecting Heracletean dynamics expressed as F = dp/dt + d(k/p)/dt in the case of very low dynamics constant the maximal neutrino kinetic energy is estimated with the help of linearization of the exponential function.*
**Keywords:** *Heracletean dynamics, neutrino ground mass, neutrino maximal kinetic energy, linearization of exponential function, frequency equivalence*

## 1. INTRODUCTION

Previously [1 ] one concluded that the neutrino low mechanical reactivity could be explained in Heracletean world by the low kinetic energy belonging to the very low ground mass. In the present article we will try to improve the estimation of the upside limited kinetic energy.

## 2. THE MATH

Respecting Heracletean dynamics the maximal ratio $R$ of the kinetic energy mass equivalent $W_k^{maximal}/c^2$ and the relative mass $m_{maximal}$ (the maximal mass share of kinetic energy origin in the relative mass) is proportional to the ground mass $m_{ground}$ as follows [1]:

$$R = \frac{W_k^{maximal}/c^2}{m_{maximal}} = \frac{m_{maximal} - m_{ground}}{m_{maximal}} = 1 - \frac{m_{ground}}{\frac{1}{c}\sqrt{e^{\frac{m_{ground}^2 c^2}{k} + lnk} - k}}. \quad (1a)$$

Since:

$$\lim_{m_{ground} \to 0} R = 0. \quad (1b)$$

$$\lim_{m_{ground} \to \infty} R = 1. \quad (1c)$$

And

$$R' = 0 \ \text{ only when } \ m_{ground} = 0. \quad (1d)$$

The kinetic energy belonging to the very low ground mass cannot be calculated directly with an ordinary nowadays available calculator because of the given misleading results recognized by the inverse proportion between the calculated kinetic energy and ground mass [1] (and even calculated negative values of kinetic energy). For the concerned extremely low ground masses the linearization of exponential function can be applied instead of the original function and consequently the upper limit of kinetic energy estimated:

$$0 < W_k^{maximal} = c\sqrt{e^{\frac{m_{ground}^2 c^2}{k} + lnk} - k} - m_{ground}c^2 < const.\, m_{ground}. \quad (2a)$$

In the case of the speculated dynamics constant $k = 6.272315 \times 10^{-46} kg^2 m^2 s^{-2}$ we can trust the calculator to the value $m_{ground} = 10^2\ eV/c^2$ where the maximal kinetic energy in the amount of $W_k^{maximal} = 10^{-3} eV$ is calculated. The linearization of exponential function for the lower values than $m_{ground} = 10^2\ eV/c^2$ then gives the next estimation:

$$0 < W_k^{maximal} < \frac{10^{-3}}{10^2} \text{ x } m_{ground}c^2 = 10^{-5} \text{ x } m_{ground}.c^2. \quad (2b)$$

And, for instance, for $m_{ground} = 0.02$ eV we have:

$$W_k^{maximal}(m_{ground} = 0.02 \text{ eV}) < 10^{-5}\text{x } 2\text{x } 10^{-2}\text{eV} = 2\text{x } 10^{-7}\text{eV}. \quad (2c)$$

The result corresponds to the frequency equivalence of 50MHz what is the same value as that already found on the first side of the fragment [1].

## 3. Conclusion

Regardless the size of the dynamics constant the maximal kinetic energy of a mass body is proportional to the ground mass in Heracletean world.

## Acknowledgement

Thanks God that we can find the point hidden from the eyes

## References

[1] Janez Špringer. "Neutrino Kinetic Energy in Heracletean World", International Journal of Advanced Research in Physical Science (IJARPS), vol. 6, no.3, pp. 37-38, 2019

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