Neutrinos at c velocity home

DECELERATION OF e-NEUTRINOS AT C IN A ZERO ENERGY MEDIUM OF PSEUDO e-NEUTRINOS

Par 1 The statement

The statement is that any dynamic cluster of triplets or doublets of pseudo e-neutrinos is decelerated by the surrounding zero energy state of the medium consisting of a sea of a random state of the four independent pseudo cells of e-neutrinos. The result of the absorption deceleration in the medium for the relativistic e-neutrinos at c of 0.8 eV has to be inversely proportional to the square root of the rest energy of the decay into proton and electron resulting in a random distribution of the relativistic e-neutrinos. This square root rule can be defined as the absorption cross section for the e-neutrinos at c.

The rest energy in the balance of decay is (N - √N) and can be expressed in either electron rest mass units or paired e-pseudos neutrinos of 1.34 eV having ½ c effective momentum. In the case of neutrons the energy of (N - √N) goes to the formation of the electron because this energy behaves mostly as a slow varying constant. Probably $N^{1/4}$ or N of the 4th root is the deviation spread during the decay.

For whatever β decay of a neutron of 11.3 min or tritium of 12.26 yrs, a cluster of triplets or doublets is released at a certain kinetic energy. Both neutron and tritium have maximum kinetic energies of 1.531 m_e or 7.825 MeV and 1.875 10^4 eV respectively. The maximum number of doublets or paired e-neutrinos is $\sqrt{4/3} \times N_e = 4.403\ 10^5$ for the neutron and a factor of $1.875\ 10^4 / 0.511\ 10^6 = 0.36693$ giving $0.36693 \times 4.403\ 10^5 = 1.616\ 10^4$ for the tritium (see N_e below). The clusters are decelerated in the medium resulting in a single e-neutrino at c of 0.8 eV. In other words over a length of $3\ 10^8$ m, c-velocity, a division by $4.403\ 10^5$ gives 681.31 m which is the decay interval of a second while 12.26 yrs is a distance of $3.869\ 10^8$ in sec or $1.553\ 10^{13}$ m divided over $1.616\ 10^4$ doublets at maximum energy or $9.61\ 10^8$ m per doublet.

Par 2 The Katrin experiment

In march 2022 after 66 or 68 years of the discovery of the e-neutrino at c, the hypothesis of pseudo vector neutrinos did not exist yet, the weight or rest mass of this neutrino was observed as 0.8 eV. The β decay of tritium over the long running experiment 'Katrin' gathered 3.7 million escaped electrons to establish this result. Katrin is an extremely accurate spectrometer to determine the kinetic energy of the escaping electrons working at 243° K measuring from this population the deficiency of 0.8 eV for the energy balance between the two electrons and e-neutrino.

The calculation due to the substitution with the mediating mass determined $N_e = 3.813364\ 10^5$ paired e-neutrinos normalised at c then making up 1.34 eV to the electron mass of 0.511 MeV. To estimate the single neutrino state at c is $1.34 \times \sqrt{4/3}\ /2 = 0.774$ eV. Namely all energy of the pair is converted into a single one leaving the other half as $1.34\ /2 \times \sqrt{4/3} = 0.5802$ eV or (2 times is 1.1605 as below). So the assessment conforms to the observations. Probably the internal exchange of a doublet points to force free propagation between the two single e- pseudos of the same spin and opposing acceleration components concluding that the e-neutrino at c is a force free pair. Not excluded can be that this combination slows down in the ultra light medium of e-pseudos.

The ratio $(2\sqrt{2})^{1/4}$ (4th root) can be seen as the cubic volume exchange between the two neutrons and the proton in tritium then giving a possible explanation for the factor of $(1\ /0.36693)^{1/4} = 1.285$ shown above with a deviation of 1.00933. Although also the doublet of $1.34 / \sqrt{4/3} = 1.1647$ eV is the zero energy for a doublet. Only infinite doublets reduce the momentum due to acceleration exchange of pseudo cells to the zero state. Now the square root of 1.16047 is 1.050866 close enough to the electron fine structure ratio of 144 /137.036 = 1.050818.

So 1.285 / 1.1605 = 1.1113 / 1.050818^2 = 1.0064 deviation. Both scaling explain the factor 2.895 within truncations errors.

Par 3 Introduction and application of the product rule

The guess for a pair of force free pseudo e-neutrinos at c can be extended to pairs of force free μ- and τ- pseudos at c having respectively been observed as 0.3327 and 30.33 m_e rest mass. Internally in a laboratory frame at c the pair exchanges angular momentum to the opposing acceleration or force components continuously, but not excluding any absorption in the ultra light dark matter medium in the long run over long distances. To confirm this statement one has to go back to the idea of the production rule for the square root of rest mass applied in the physics hypothesis for gravity generation in a macro mass.

For the μ-pseudo at c may be valid: muon rest mass 206.768 with 205.555 m_e of the 6 intern τ-pseudos. Then 206.768 – 205.554 =1.214 added with 0.3327 gives 1.5467m_e having a square root of 1.2437. Then giving a difference of 1.2437 – 1.214 = 0.0297 or 0.03 m_e , probably to be thought of a deviation. Do realize that one μ-pseudo neutrino at c is composed from two pseudos of ½ c effective, using 2/3 or 0.6667 m_e or internal conversion. √2/3 = 0.8165. Subtraction 1.214 – 0.8165 = 0.3975 and subtract from 0.3327 gives the maximum for the kinetic random energy of 0.066 m_e shared between neutrino and muon.

For the τ-pseudos at c the τ-lepton is 3477.189 m_e making with the rest mass of the τ-pseudo of 30.33 3507.519 m_e . Subtract from 2 x 1728 = 3456 giving 51.519 m_e with square root of 7.178 m_e . One τ-pseudo is 34.259 and compared with 30.33 gives 4.929. The Subtraction of 7.178 gives 3.249 m_e . Further the square power of 4.929 is 24.295 to be compared with 3477.189 – 3456 = 21.189 m_e with a subtraction coming to 3.106 m_e then guessing the statistic maximum kinetic energy for the τ-pseudo as 0.143 m_e making a relativistic mass of (30.33 + 0.143)m_e .

Applying the product rule for e pseudos at c works slightly differently. Compare the rest mass energy of neutron and proton respectively 1838.684 and 1836.153 m_e giving a mass difference of 2.531 and 1.531 if the electron mass is subtracted. Take the square root of both 1.591 and 1.23734m_e. Then 1.591 – 1.531 = 0.06 m_e , multiplied by 2 gives 0.12. Then subtract 1.531 – √2 = 0.1168 or 0.0032 to 0.120 for both. The factor 2 is allowed due to ½ c effective momentum in inversion exchange. As a 2nd check, compare 0.0032 m_e to the following absolute constants √1728 – √1604.175 = 1.517065 and $12^{1/6}$ = 1.513085. Subtracting gives 0.00398m_e which is close enough to 0.0032.

The consequence of the product rule in the decay of the neutron and tritium is that the values of 1.531 – 1.517065 = 0.0393 m_e or 7.120334 eV while tritium has a maximum energy of 1.875 eV. Compared to the rest mass of a pair of e-pseudo neutrinos one gets the maximum statistical energy of a cluster group which is released during the decay. So in a relativistic sense compared to 0.8 eV of a c-neutrino the huge acceleration makes no sense. Meaning that the square root of both is more realistic respectively 266.8 and 136.9 eV. Show that no μ-neutrino can be generated. Compare √1.531 = 1.237335 and √1/3 = 0.57735, subtract giving 0.6598 which is less than 2/3 or 0.6667 m_e , the limit for the paired μ- pseudos normalised to c. By comparing tritium to the neutron, it shows above inverse proportionality for the relativistic neutrinos, tritium is less energetic than the neutron and resulting in a much longer decay time, conforming to the above statement of par 1.

By adding the difference of 1.517065 – 1.513085 = 0.0039 to 1.517065 giving 1.521 it shows that the neutron decay energy is slightly reduced, possibly explaining a longer decay time for the observed solar neutrinos.

Further if the square root rule is applied to the internal structure of the electron with three μ-pseudos of 1/3m_e at ½ $c_{effective}$ each then 3 x √1/3 = √3 which is continuously inverted in loop due to the ultra fast medium maintaining the unit rest mass. The inversion is due to internal acceleration in exchange

to the Fermi state of the particle. Another manner to understand the intricate exchange loop for the electron.

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