

Protective Neutrinos and Antineutrinos:

The Neutrinic Model for Stable Coexistence of Matter and Antimatter

Author: José Luís Pereira Rebelo Fernandes

- Independent Researcher | Engineer (University of Porto)

Email: rebefernandes@sapo.pt

Abstract

This article proposes a conceptual reformulation of beta decays and the internal composition of atomic nuclei, focusing on the active role of neutrinos and antineutrinos as energy shields. The central hypothesis suggests the existence of matter and antimatter particles—latent electrons and positrons—cohabiting the nucleus with the stabilizing support of neutrinos (matter) and antineutrinos (antimatter), preventing their annihilation. Furthermore, the Neutrinic Model introduces neutral entities such as μ^0 and τ^0 resulting from heavy lepton decays, proposing a functional reorganization rather than extinction. This approach offers a new perspective on the latent structure of nuclei and the cosmic equilibrium between matter and antimatter.

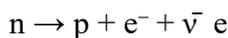
Keywords: Neutrino, antineutrino, beta decay, positron, electron, proton, neutron, antimatter, nuclear stability, lepton rearrangement.

1. Introduction

The observable universe presents a puzzling imbalance between matter and antimatter. The Standard Model offers a partial explanation, but treats neutrinos as quasi-inert. This paper presents an alternative hypothesis: neutrinos and antineutrinos act as energy buffers, allowing opposite charges to coexist in nuclei without annihilation.

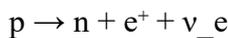
2. Reinterpretation of Beta Decays

2.1 β^- – Neutron Decay



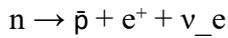
The neutron does not transform, but loses the electron's protective antineutrino, leading to its expulsion from the nucleus.

2.2 β^+ – Proton Decay



The proton, when losing the neutrino that protects the positron, generates its emission from the nucleus.

2.3 Alternative Neutron Decay



The neutron, when losing the neutrino that protects the positron, causes the positron to be emitted from the nucleus.

3. Balance between positive and negative charges

The neutron is composed of an equal number of latent electrons (-) and positrons (+), making it neutral.

The proton has an additional positive electrical charge that gives it its nature, and the antiproton has a negative electrical charge.

Leptonic shielding:

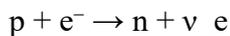
Matter-neutrinos shield antimatter positrons from the negative charge radiation from latent matter electrons, while allowing the positive charge radiation from positrons. Matter shields antimatter from matter radiation.

Antineutrinos and antimatter shield matter's electrons from the radiation of the positive charge of antimatter's positrons, while allowing radiation of the negative charge of matter's electrons to pass through. Antimatter shields matter from antimatter's radiation.

This symmetry allows the coexistence of matter and antimatter within nuclei.

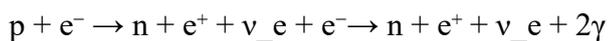
4. Electronic Capture Reinterpreted

The proposal of the standard, traditional model:



To find a neutrino that would shield a positron, it would also have to be emitted.

The proposed Neutrinic Model:



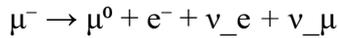
Instead of absorption, there is annihilation between the electron and positron, releasing gamma photons and neutrinos.

"The decay product is usually created in an excited state, producing cascades of X-rays until it reaches the ground state."

The release of the neutrino indicates that the positron has become unshielded, and since the captured electron is also unshielded, its annihilation and the appearance of two photons are normal.

5. Functional Decay of Heavy Leptons

5.1 Muon (μ^-)



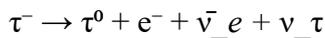
The emergence of a neutral muon (μ^0), a transient phenomenon, which, due to its neutrality, is nuclearly absorbed by the surrounding matter.

The muon neutrino (ν_μ), before being released, acts as a functional protector for the muon (μ^-).

The release of the antineutrino ($\bar{\nu}_e$) indicates the separation of the electron (e^-).

The release of the muon neutrino (ν_μ) indicates the dissolution of the muon (μ^-). The muon does not extinguish, but structurally reorganizes via nuclear absorption.

5.2 Tau (τ^-)



The emergence of a transient neutral tau (τ^0), which, due to its neutrality, is nuclearly absorbed by the surrounding matter, giving rise to the possible formation of high-density isotopes.

The tau neutrino (ν_τ) acts as a functional protector of tau (τ^-).

The release of the antineutrino ($\bar{\nu}_e$) indicates the separation of the electron (e^-).

The release of the tau neutrino (ν_τ) indicates the dissolution of tau (τ^-).

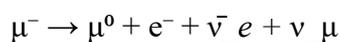
6. Muonic Atoms and Lepton Reabsorption

The muon replaces electrons in lower orbits.

This is possible because its charge is the same as that of the electron, and the muon neutrino remains, thus ensuring the muon's functionality.

Since the muon, due to its much greater weight than the electron, occupies a region very close to the nucleus, this will cause its decay.

After decay:



The neutral muon is nuclearly absorbed by the surrounding matter; the electron can be orbitally rearranged.

7. Universal Coexistence of Matter and Antimatter

Starting with the neutron as the base element:

It can produce matter (protons + electrons + neutrinos)

Or antimatter (antiprotons + positrons + antineutrinos).

Cross-shielding between neutrinos/antineutrino and opposite charges prevents annihilation.

The matter neutrino shields the positron-antimatter from the negative radiation of the electron-matter.

The antineutrino-antimatter shields the electron-matter from the positive radiation of the positron-antimatter.

8. Conclusions

Neutrinos and antineutrinos are not leftovers; they are energy guards.

They respectively allow the radiation of positrons and electrons, protecting them from opposing radiation.

They justify latent nuclear stability and the coexistence of matter and antimatter.

They offer a way to reinterpret cosmological imbalances and nuclear decays.

They resolve one of the greatest enigmas, the balance between matter and antimatter.

The non-direct detection of μ^0 and τ^0 does not constitute a limitation of the Neutrinic Model. These particles, being neutral and energetically unstable, are absorbed by the surrounding nuclear matter without generating a direct signal. However, their existence can be inferred indirectly, through the observation of the dominant charge released in the process (e^- or other particles) and the presence of the corresponding neutrino ($\bar{\nu}_e$, ν_μ or ν_τ), which constitutes the accessible experimental signature.

"Neutrinos are not leftovers. They are the guardians of charge balance, guardians of matter, guardians of our reality."

The Neutrinic Model offers a new interpretation of fundamental nuclear processes and proposes a theoretical mechanism for stability between matter and antimatter, resolving classic paradoxes of particle physics. Empirical validation of this model could bring paradigmatic changes to our understanding of the universe.

References

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