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THE STRUCTURE AND PROPERTIES OF MUONS AND PIONS IN THE EXPONENTIALLY DAMPED BREIT-PAULI-SCHRÖDINGER (XBPS) MODEL

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ABSTRACT

The Exponentially-damped Breit-Pauli-Schrödinger (XBPS) model of elementary particles is applied to the description of muons, pions and kaons. Based on the products of their decay processes, the compositions of these meta-stable particles are given in terms of protons, electrons, and neutrinos and their antiparticles. Claims that there is more than one flavor of neutrino are examined, including the theory of neutrino oscillations. Arguments for and against concluding that the neutrinos are massless are discussed. It is pointed out that calculations employing the XBPS model indicate that the parity of the pions is positive, contrary to the assumption of Yang and Lee which led to the belief that parity is not conserved in the weak interaction. The electroweak analogue of the Stern-Gerlach effect is shown to give a straightforward nterpretation of nuclear decay processes based on the assumption that the neutron contains an electron and antineutrino prior to its decay. On this basis the need to assume that the conservation of parity is violated in order to explain the experimental observations of Wu et al. is avoided.

KEYWORDS: *Elementary Particles, Muons, Muon Neutrinos, Neutrino Oscillations, Neutrino Rest Masses, Pions, Parity Conservation, XBPS Model, Electroweak Analogue of the Stern-Gerlach Effect*

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