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A Classical Complex 4-Wave Foundation of the Cosmic-Quantum Mechanism MART GIBSON — A model of a fundamental ½ spin quantum as a simple harmonic oscillation of an expanding 3-space of variable inertial density and resonant frequency in an underlying 4-continuum is developed. Expansion provides a mechanical analogue of an EMF which drives the neutral quantum. Absent inertial confinement, a differential decrease in inertial density creates a discontinuity, inducing a decrease in frequency to that of the proton, with transmission of the electron. Quantum gravity arises as the derivative of the wave force with respect to the expansion tension stress, and the Planck area as the derivative of the fundamental cross-sectional scale with respect to a change in stress. An exponential Hubble rate is coupled with the differential wave force and thereby beta decay. The nature of matter and anti-matter as inductive and capacitive states, respectively, is straightforward. A quantum mechanism, with animation, modeling the above is developed with the derivation of an inertial constant, $t(tav) = \hbar/c$. A matrix of the wave symmetries, functions, invariants, and their couplings is examined, clearly showing the relationship of the electromagnetic and gravitational interactions.

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