24pQA-3 Quantum Treatment in the GHz-THz Electromagnetic Waves

General Resonance, LLC, MD, USA **Juliana MORTENSON**

Einstein's hidden variables have been found. Albert Einstein was the father of the quantum revolution, but he was unhappy with quantum mechanics and said it was an incomplete theory. Einstein said variables were missing from quantum mechanics. Many scientists tried to develop theories about the hidden variables, but were unsuccessful because they did not know what the hidden variables were. A recent advance in the foundations of quantum mechanics has revealed six (6) new variables and three (3) new universal constants. The new variables and constants can be used with classical mechanics at the smallest energy levels and quantum lengths, and do not appear to be restricted by a "classical limit".

Discovery of the first hidden variable occurred when a minor irregularity in Max Planck's famous quantum derivation led to the discovery that his quantum formula, $E = hv$, is an incomplete and condensed version of his original, full quantum formula, $E = h_0 v t_m$, where "E" is electromagnetic (EM) energy, "h_0" is Planck's energy constant for a single oscillation of EM waves, "v" is frequency, and "t_m" is measurement time. Planck's energy constant, h_0, is the mean energy of a single oscillation of EM radiation, 6.626 X 10^{-34} J/osc, and is

independent of frequency or wavelength. The energy constant represents the constant energy of the true elementary particle of light, the sub-photonic single oscillation (i.e., wave or cycle).

Just as electricity has a fundamental unit of charge, light has a fundamental unit of energy. Universal constants for the rest mass and momentum of light have also been determined. Other new variables include a resonance factor, light's relative energy speed, and the force exerted by EM waves.

The new variables and constants eliminate many of the old paradoxes, and have provided at least three (3) different mechanisms for the non-thermal effects of GHz–THz electromagnetic waves:

1. Resonant absorption of rotational and ro-vibrational frequencies catalyzing chemical and materials reactions;

2. Resonant absorption of fine and hyperfine splitting frequencies stimulating electronic excitation, leading to catalysis of chemical/materials reactions;

3. Absorption of EM waves resonant with acoustic frequencies or phonons, resulting in control of chemical and material reactions.

The implications of these discoveries and mechanisms are profound. The non-thermal effects of GHz-THz radiation are explained with new quantum variables in a classical mechanics framework. For more information see www.EinsteinsHiddenVariables.com.