The Meaning of Quantum Theory and the Nature of Reality

Elizabeth A. Rauscher

Tecnic Research Laboratory
Apache Junction, AZ 85119

J.J. Hurtak & D.E. Hurtak

AFFS
Los Gatos, CA 95031

In considering views of Reality we must consider the fundamental nature of quantum mechanics, which has had great success in describing the spectrum of light from distant stars and galaxies, formulating the properties of the strong, electro-weak or electromagnetic and weak decay forces and explaining atomic order formulated as the atomic periodic table and atomic spectra. A vast array of technologies has resulted from quantum theory, from semiconductors to NMR machines, nuclear reactors and possibly encryption secure, fast quantum computers. Quantum theory, however, has yet to fully engage with the gravitational force. With the advent of quantum theory, several major issues stand out, leaving us with major philosophical questions on the nature of physics and reality, and our ability to comprehend them. The issues involve the interpretation of quantum measurement, the Heisenberg uncertainty principles on the completeness of quantum theory and nonlocality. The wonderful frontiers of science continue to open new concepts based on a multidimensional reality which we use to address these issues, including solving the Schrödinger and Dirac equations in complex Minkowski eight space. We also formulate Bell's theorem and the Young's double slit experiment in Rauscher's complex 8-space. We formulate an interpretation of the quantum that yields locality in a hyper-dimensional complex space and maintains the completeness of quantum theory and nonlocality in usual 4-space, with local connectivity and the Lorentz invariant conditions, where subluminal and luminal signaling are maintained. Are we really forced to choose between two alternate views of reality? One view that external reality exists independent of the observer, and the other that the observer somehow is a participator or an integral part of all of nature. Must we choose between these or is there another way out? We find our way out and we satisfy Bohr (Copenhagen) and Einstein (determinism) in bringing about a practical outcome of the debate. By developing and applying complex 8-space, we can accommodate locality or local realism in terms of contiguous event connections in complex 8-space. In 4-space, nonlocality dominates and can be considered locality in 8-space. The determination of the state of a system naturally collapses to its final state where quantum mechanics is functioning completely in 4 and 8-space.