1027-68-23 **James Kuodo Huang*** (james@citwww.com), California Information Technology, P. O. Box 3355, Alhambra, CA 91803. *Quantum Computing and Quantum Number Theory.*

Measuring quantum observables is very important to quantum computing. Transitive invariant measures in the Hilbert space was considered to be important by John Von Neumann. The work of John Von Neumann, S. M. Ulam, J. C. Oxtoby, F. Navarro_Bermudez, and J. K. Huang on shift invariant measures had lead Huang to discover Huang's algebraic numbers. The generalized Huang's number theory was introduced in the early 1980. The quantum numbers are introduced in terms of a general Huang's number theory in this article. Quantum algebraic numbers are special quantum numbers theory in the Hilbert cube of infinite product of unit intervals with Bernoulli Shift. In 1980 the author has proved that there are Huang's algebraic numbers of degree n for all integer greater than 2. Also there are arbitrary large geometric series in the orders of Huang's algebraic numbers. Quantum algebraic numbers could be called Von Neumann-Ulam-Oxtoby-Navarro_Bermudez-Mauldin-Huang algebraic numbers. Usually sets, logic, algebra, and numbers are closely related to a mathematical theory. Quantum algebraic numbers and quantum number theory hopefully could lead to a light for quantum computing like the simple experiment of light and mirrors leads to the discovery of quantum mechanics. (Received January 15, 2007)