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Title: Probability representation of quantum states

Abstract:

New representation of quantum mechanics where the system states are identified with fair probability distributions is introduced. Relation with quasiprobability representations like Wigner, Husim and Glauber-Sudarshan functions is given in explicit form. Qudit states (spin states, N -level atom states) are described in the new representation by probabilities of classical-like dichotomic random variables. Schrödinger, von Neuman and Gorini-Kossakowski-Sudarshan-Lindblad equations are given in the form of kinetic equations for probability distributions.