

Non-Monotonic Probability Theory for n -State Quantum Systems

Dr. Fred Kronz
Department of Philosophy
The University of Texas at Austin
Austin, TX 78712, USA
kronz@mail.utexas.edu

Abstract. In previous work that was presented at the IQSA 2004 meeting in Denver (forthcoming in the *International Journal of Theoretical Physics*), I formulated and then used a non-monotonic theory of probability to systematize a standard quantum mechanical characterization of simple interference experiments that involve 2-state systems. The main result of this investigation is a nontrivial generalization of that theory to handle analogous experiments for n -state quantum systems (for any $n \in \mathbf{N}$). After presenting that material, the discussion focuses on conditional probabilities, which seem to show promise for the consideration of interpretive matters. Results of a related investigation on correlated systems are briefly summarized that indicate otherwise.