## In Light Of The Concept Of Joint Observables In Fuzzy Probability Theory

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Abstract:

E. G. Beltrametti and S. Bugajski's approach to operational probability theory is based on the physical foundation of the theory. Moreover, each of S. Bugajski and S. Gudder establishes the mathematical foundation of the theory. But the theory doesn't keep its development as it was expected. This may need from us to revise some of its fundamental basic concepts. We argue that if quantum probability theory should have less constrains than classical probability theory as we see in the case of joint random variables, we surely need to weaken the definition of the intersection operation. We will try to discuss the definition validity in quantum probability theory and the ability to give a weaker definition that fulfills the quantum needs.

Keywords:

fuzzy set, effects, states, the intersection operation, (observable) fuzzy random variable , joint random variables

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