

ON q -DEFORMED QUANTUM STOCHASTIC CALCULUS

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Abstract: In this paper we investigate a quantum stochastic calculus built of creation, annihilation and number of particles operators which fulfill some deformed commutation relations.

Namely, we introduce a deformation of a number of particles operator which has simple commutation relations with well-known q -deformed creation and annihilation operators. Since all operators considered in this theory are bounded, we do not deal with some difficulties of a non-deformed theory of Hudson and Parthasarathy [8]. We define stochastic integrals and estimate them in the operator norm. We prove Itô's formula as well.

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