Quantum martingales associated with output states

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We study output states on algebras of operators on Fock space which is absolutely continuous with respect to a input (vacuum) state. The output states assign (density) operators on Fock space by a noncommutative Radon-Nikodym type theorem which becomes quantum martingales. The density operators of regular, absolutely continuous output states admits a quantum martingale representation of which the integrands belong to the commutant of the $\star$–algebra parameterizing the quantum Itô algebra.

References

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