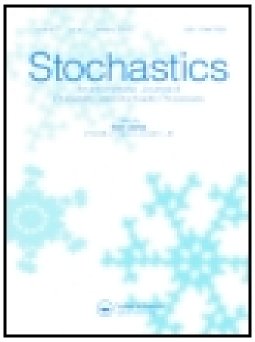

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Statistical causality, martingale problems and local uniqueness

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ABSTRACT

The paper considers a statistical concept of causality in continuous time in the filtered probability spaces which is based on the Granger's definition of causality. The given causality concept is then applied to the solution of the martingale problem (associated with the stochastic differential equation driven with semimartingales). More precisely, we show that the given causality concept is closely connected to the concept of extremality of measures for the solutions of the martingale problem, for the stopped martingale problem and for the local martingale problem. We also show the equivalence between some models of causality and local uniqueness (for the solutions of the martingale problem).

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