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Numerical solution to the Liouville Master Equation for piecewise deterministic processes

We deal with a stochastic process that results by the action of a semi-Markov process on an ordinary differential equation, that is a kind "Piecewise Deterministic Process". The statistical description is obtained by the distribution function for the process as a solution of a system of Liouville Master Equations (LMEs). These equations are first order hyperbolic with non-local boundary condition. We show that the numerical solution, obtained by using the Courant-Isaacson-Rees and a quadrature scheme, is convergent and monotone under a Courant-Friedrichs-Lewy-like condition. As a practical application example we calculate the time dependent density probability function for a filtered random telegraph process.

Ort: Raum 02.003 (2. Stock) (Mathegeb. 30 West) Zeit: Donnerstag, 30.06.2011, um 11.00 Uhr

Zu diesem Vortrag laden wir Sie herzlich ein.

gez. Alfio Borzi