

Structure-preserving algorithms for stochastic differential equations

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Abstract: The structure-preserving algorithms for stochastic differential equations (SDEs) include the symplectic methods for stochastic Hamiltonian systems (SHSs), the pseudo-symplectic methods for SHSs, the numerical methods given by stochastic Magnus expansions for SDEs, the discrete gradient methods for SDEs with the first integral and other structure-preserving numerical methods for SDEs. In this talk we present some new results on the structure-preserving algorithms for SDEs.