Exact pathwise simulation of multi-dimensional Ornstein-Uhlenbeck processes

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Abstract. The exact scenario simulation of multidimensional processes of the Ornstein-Uhlenbeck type is considered. We propose new methods that allow the exact simulation of this process and, simultaneously, the generation of the underlying Wiener trajectories from the same source of randomness. This is particularly important when both processes are system-components in larger stochastic models, for which the study of pathwise dynamics is required.