A new twist for the simulation of hybrid systems using the true jump method

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Abstract

Current methods for solving piecewise-deterministic Markov processes are limited by the need to calculate the next jumping time at each recursion of the algorithm. Here we describe a new way to do this. This new method makes it possible to study numerically stochastic models for which analytical solutions are not known.

N.B.: The True Jump method is the same as the Gillespie algorithm.

Introduction