

Efficient Monte Carlo Simulation of Security Prices

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This paper provides an asymptotically efficient algorithm for the allocation of computing resources to the problem of Monte Carlo integration of continuous-time security prices. The tradeoff between increasing the number of time intervals per unit of time and increasing the number of simulations, given a limited budget of computer time, is resolved for first-order discretization schemes (such as Euler) as well as second- and higher-order schemes (such as those of Milshtein or Talay).