Two new MLMC applications

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Abstract

This talk will discuss two new MLMC applications.

The first is a collaboration with Kavita Ramanan (Brown University) on multi-dimensional reflected diffusions. The key issue is a poor strong convergence due to the treatment of the reflection at the boundary. This is addressed through adaptive time-stepping, reducing the timestep size near the boundary in a way which improves the accuracy without substantially increasing the cost.

The second is a collaboration with Howard Thom (University of Bristol) on EVPI (Expected Value of Partial Information). This involves a nested simulation, and an antithetic treatment is used to improve the variance of the multilevel estimator.

In both cases I will present some numerical results and outline the supporting numerical analysis.

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