UQ: MLMC based on renormalization

Oleg Iliev,[1]
[1]*Fraunhofer Institute for Industrial Mathematic, Germany*

Multilevel Monte Carlo, MLMC, algorithm for elliptic stochastic PDE is discussed. The coarse evels are based on renormalization approach. The normaization based MLMC is compared with MLMC algorithms presented in the literature. The dependence of MLMC performance from stochastic parameters is investigated numerically. Next, combined renormalization and MLMC algorithm is discussed. The parallel performance of MLMC is also discussed.