

Convergence of adaptive stochastic collocation with finite elements

Michael Feischl

Institute of Analysis and Scientific Computing, TU Wien, Austria
michael.feischl@tuwien.ac.at

We consider an elliptic partial differential equation with a random diffusion parameter discretized by a stochastic collocation method in the parameter domain and a finite element method in the spatial domain. We prove for the first time convergence of a stochastic collocation algorithm which adaptively enriches the parameter space as well as refines the finite element meshes.

Joint work with: Andrea Scaglioni

References

- [1] M. Feischl, A. Scaglioni. Convergence of adaptive stochastic collocation with finite elements. *Computers & Mathematics with Applications*, 98: 139-156, 2021.