ExtendableASGFEM

This package provides an implementation of the stochastic Galerkin finite element method (SGFEM) for selected two-dimensional model problems involving Karhunen-Loève expansions (KLE) of stochastic coefficients. The resulting large-scale systems exhibit a tensorized structure and are efficiently solved using iterative solvers. Adaptive a posteriori error estimators guide both spatial and stochastic refinement to ensure accuracy and efficiency.

Spatial discretization is performed using the finite element packages ExtendableFEM.jl and ExtendableFEMBase.jl.

References

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