On the numerical approximation of eigenvalue problems arising from partial differential equations

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Abstract

We discuss the finite element approximation of eigenvalue problems arising from elliptic partial differential equations. We present various examples of non-standard schemes, including mixed finite elements, approximation of operators related to the least-squares finite element method, parameter dependent formulations such as those produced by the virtual element method. Each example is studied theoretically; advantages and disadvantages of each approach are pointed out.

Title: A deep neural network multigrid solver for flow problems

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