REDUCED BASIS METHODS AND TRANSPORT PROBLEMS

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Keywords: *Reduced Basis Methods, transport problems*

Transport phenomena are particularly challenging for the Reduced basis method. This talk is devoted to a new RB discretization for transport problems which is (i) optimally stable and (ii) easy to realize in practice. The main idea is to start with a standard test space and define a corresponding trial space within a Petrov-Galerkin setting by the application of the adjoint (parameter-dependent) operator. This has a number of interesting consequences which will be discussed in the talk.

This talk is based upon joint work with J. Brunken (Münster) and K. Smetana (Twente)