

Reduced Basis Methods in Space and Time
Karsten Urban, Ulm University

Highly complex flow problems are often instationary and call for a reduction in particular in the presence of parameters. This means that a reduction in space and time is often necessary. We recall and compare known model reduction techniques based upon POD-Greedy and the space-time variational framework.

In particular in the latter one, the question of optimal test and trial functions arise, both in the continuous and in the discrete case. We discuss different choices and realizations for a number of problems including the wave equation and transport equations.