SOLVING LARGE SCALE PDE OPTIMIZATION PROBLEMS WITH A DECOMPOSITION SCHEME

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Abstract

We are concerned with a computation of a constrained optimal control problem of some parabolic partial differential equations (PDE). After recalling some theoretical results, the Galerkin spectral expansion for this problem is investigated. This development leads to a large scale optimization problem which is achieved using a decomposition method. A relevant test problem is considered and numerical results are presented.