A PARABOLIC SHAPE OPTIMIZATION PROBLEM[*]

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Dedicated to Dr. Vasile Drăgan on the occasion of his 70th anniversary

Abstract

In this article, we discuss some approximation methods for optimal design problems governed by evolution equations of parabolic type. The two investigated approaches are of fixed domain type. We also formulate supplementary questions and problems, related to this subject.

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1   Introduction

Optimal design problems usually take into account stationary processes, but there are studies related to evolutionary systems. For instance, the classical monographs by Pironneau [14], Sokolowski and Zolesio [15] devote sections to such subjects, in particular to hyperbolic systems and parabolic systems.