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www.elsevier.com/locate/ejcon

PII: S0947-3580(16)30055-3
DOI: http://dx.doi.org/10.1016/j.ejcon.2016.06.002
Reference: EJCON177

To appear in: *European Journal of Control*

Received date: 31 March 2016
Revised date: 30 May 2016
Accepted date: 20 June 2016

Cite this article as: D.Yu. Karamzin, V.A. de Oliveira, G.N. Silva and F.L. Pereira, Minimax Optimal Control Problem with State Constraints, *Europea Journal of Control,* http://dx.doi.org/10.1016/j.ejcon.2016.06.002

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D.Yu. Karamzin[a,b,c,*], V.A. de Oliveira[d], G.N. Silva[d], F.L. Pereira[e]

[a] *Federal Research Center "Computer Science and Control" of the Russian Academy of Sciences, Russia, Moscow, 119333, Vavilova street, 40*
[b] *RUDN University, Russia, Moscow, 117198, Miklukho-Maklaya street, 6*
[c] *SYSTEC/Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, s/n, 4200-465, Porto, Portugal (Visiting Researcher)*
[d] *Instituto de Biociências, Letras e Ciências Exatas, UNESP – Univ. Estadual Paulista Rua Cristóvão Colombo, N. 2265, CEP 15054-000, São José do Rio Preto – SP, Brasil*
[e] *SYSTEC/Faculdade de Engenharia, Universidade do Porto, Rua Dr. Roberto Frias, s/n, 4200-465, Porto, Portugal*

Abstract

In this article, nondegenerate necessary conditions of optimality are derived and discussed for the so-called "mini-max" optimal control problems with state constraints. In this class of problems, the data depends on an unknown parameter that takes values in a given compact set called "uncertainty set". The solution of the problem is considered for the worst case value of the unknown parameter. The result is obtained in the two stages: after the basic necessary conditions of optimality are derived, additional conditions ensuring their nondegeneracy in the minimax context are obtained.

Keywords: minimax control, state constraints, maximum principle
2010 MSC: 49K15, 49K21, 49K35

1. Introduction

In this article we study a minimax optimal control problem with state constraints. As a starting point of our investigation, we consider the article [1] by

*Corresponding author
Email addresses: dmitry_karamzin@mail.ru (D.Yu. Karamzin), antunes@ibilce.unesp.br (V.A. de Oliveira), gsilva@ibilce.unesp.br (G.N. Silva), flp@fe.up.pt (F.L. Pereira)