

Lyapunov-type extremal problem with phase constraints

Aleksandar Jović

Faculty of Mathematics, University of Belgrade
e-mail: ajovic@matf.bg.ac.rs

Jelena Vicanović

Faculty of Technology and Metallurgy
e-mail: jvicanovic@tmf.bg.ac.rs

Abstract. We consider a nonsmooth case of Lyapunov-type, i.e. isoperimetric convex continuous-time optimization problem with inequality integral constraints and phase constraints, defined in $L_\infty([0, T]; R^n)$. Sub-differential approximation of the considered problem proved to be a practical way to bypass the lack of differentiability. By using new alternative theorem for convex inequalities in functional spaces, necessary optimality conditions are obtained.

Keywords: Optimal control; Continuous-time optimization problems; Convexity; Optimality conditions;

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