

Jerzy Stefan Respondek
Silesian Technical University
Faculty of Automatic Control, Electronics and Computer Science
Institute of Computer Science, Department of Theory of Information
E-mail: Jerzy.Respondek@polsl.pl

Controllability of a Flexible Manipulator with Parallel Drive Mechanism

The article is devoted to analysing the approximate controllability without constraints and constrained controllability with non-negative controls of flexible manipulator with parallel drive mechanism. The considered dynamical system is governed by second order partial differential equation. Defining proper differential operator enabled to transform it into abstract differential equation and apply to it known controllability theorems of such an abstract system.

References

- [1] J. Respondek, *Controllability of Dynamical Systems With Constraints*, Systems Control Lett. 54, 293–314.
- [2] J. Respondek, *Numerical approach to the non-linear diofantic equations with applications to the controllability of infinite dimensional dynamical systems*, Internat. J. Control 78 (2005), 1017–1030.
- [3] J. Respondek, *Numerical Analysis of Controllability of Diffusive-Convective System with Limited Manipulating Variables*, International Communications in Heat and Mass Transfer, accepted on 17 January 2007.