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**ON THE CONTROL OF A NONLINEAR DYNAMIC SYSTEM  
IN A TIME-OPTIMAL PROBLEM WITH STATE CONSTRAINTS**

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An optimal control problem for a nonlinear dynamic system is studied. The required control must satisfy given constraints and provide the fulfilment of a number of conditions on the current state of the system. For the construction of admissible controls in this problem, we propose an approach based on the ideas of solution of control problems with a guide. The results of numerical simulation are presented.

Keywords: dynamic system, state constraints, admissible control, guide, accompanying positions.

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