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Explicit solution of the time-optimal control problem for one nonlinear three-dimensional system. (Russian. English summary) [Zbl 1374.93166](#)

Visn. Khark. Univ., Ser. Mat. Prykl. Mat. Mekh. 83, 21-46 (2016).

Summary: The time-optimal control problem for the system $\dot{x}_1 = u$, $\dot{x}_2 = x_1$, $\dot{x}_3 = x_1^3$ is considered. Explicit formulas for finding optimal controls are given. The explicit solution of the optimal synthesis problem is obtained.

MSC:

93C10 Nonlinear systems in control theory

49J15 Existence theories for optimal control problems involving ordinary differential equations

34H05 Control problems involving ordinary differential equations

Cited in **1** Document

Keywords:

nonlinear control systems; time optimality; explicit solution

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