

**Dokuchaev, N. G.**

**Integral estimates for ordinary differential equations and their application to nonsmooth optimal control problems.** (Russian) Zbl 0762.34015

Differ. Uravn. 27, No. 10, 1679-1691 (1991).

Two integral estimates are derived for the solution of the ordinary differential equation  $\dot{y}(t) = f(y(t), t)$ ,  $t \in [0, T]$ . The estimates are utilized in the problem of nonsmooth optimal control with a random initial state  $y(0) = a$ . Existence theorems for optimal control solutions are derived.

Reviewer: J.Ramik (Ostrava)

**MSC:**

[34C11](#) Growth and boundedness of solutions to ordinary differential equations

[34A34](#) Nonlinear ordinary differential equations and systems, general theory

[49J15](#) Existence theories for optimal control problems involving ordinary differential equations

Cited in 1 Review

**Keywords:**

existence theorems; integral estimates; ordinary differential equation; nonsmooth optimal control; random initial state