

ON NULL CONTROLLABILITY AND THE MINIMUM TIME PROBLEM

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Abstract. We consider the semilinear control system described by the equation

$$y'(t) = Ay(t) + f(y(t)) + Bu(t),$$

where $B : U \rightarrow X$ is a linear continuous operator, X and U two Hilbert spaces, $A : D(A) \subseteq X \rightarrow X$ generates a C_0 -semigroup, $f : X \rightarrow X$ is a given function and $u(\cdot)$ is the control. We get null controllability results and estimates for the minimum time function around the target by considering appropriate feedback controls.

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