Periodic Solutions for a Discontinuous System with p-Laplacian

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Abstract

This paper is concerned with existence of solutions for the differential inclusions system with p-Laplacian:

$$-(|u'|^{p-2}u')' + \epsilon|u|^{p-2}u \in \partial F(t,u) \quad \text{a.e.} \ \ t \in (0,T)$$

$$u(0) - u(T) = u'(0) - u'(T) = 0$$

where $p \in (1,\infty)$, $\epsilon > 0$ and $F : (0,T) \times R^N \to R$ is locally Lipschitz with respect to the second variable and satisfies certain growth condition.