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Title: Invariant tori near heteroclinic connection in Filippov
systems

Abstract: In this work, we performed a study in a family of Filippov system in order to determine the existence of invariant tori close to a heteroclinic connection. We consider the family of second order discontinuous differential equations

$$\ddot{x} + \operatorname{sgn}(x) = \theta x + \epsilon p(t),$$

where θ and ϵ are positive real parameters, and p is a ω -periodic function of class \mathcal{C}^5 . The unperturbed system ($\epsilon = 0$) has a heteroclinic trajectory which is the closure of a periodic annulus. The existence of such region allows to construct several coordinate changes in the direction of obtain conditions to apply the standard Moser Twisting Map Theorem.