國立中山大學應用數學系
學術演講

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講　題：Discontinuity Bifurcation Problems for Piecewise-Smooth Systems
時　間：2014/03/24（星期一）13：10～14：00
地　點：理學院四樓理 SC 4027 室

摘要

The problem of homoclinic bifurcations in planar continuous piecewise-linear systems with two zones is studied. This is accomplished by investigating the existence of homoclinic orbits in the systems. The systems with homoclinic orbits can be divided into two cases: the visible saddle-focus (or saddle-center) case and the case of twofold nodes with opposite stability. Necessary and sufficient conditions for the existence of homoclinic orbits are provided for further study of homoclinic bifurcations. Two kinds of homoclinic bifurcations are discussed: one is generically related to nondegenerate homoclinic orbits; the other is the discontinuity induced homoclinic bifurcations related to the boundary. The results show that at least two parameters are needed to unfold all possible homoclinc bifurcations in the systems.

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