

Asymptotic stability of ac-networks

Sofia Castro¹,

¹ Economics Faculty, Center of Mathematics, University of Porto, Portugal

An ac-network is a robust heteroclinic network (a formal definition will be provided in the talk). All its nodes are hyperbolic equilibria on a coordinate axis and the unstable manifold of each equilibrium is contained in the network. This makes the network clean, leading to the name “ac” standing for axial and clean. Although ac-networks can correspond to very complicated graphs, their description is very systematic. Since ac-networks appear naturally in applications, for instance to population dynamics, the study of their stability and that of their cycles is of interest. I shall describe sufficient conditions for the asymptotic stability of ac-networks. Some of the results extend beyond ac-networks and can be applied to other networks. This is joint work with Isabel Labouriau and Olga Podvigina.

This submission is for a contributed session