
Regularization of piecewise smooth border-collision bifurcations

Kristian Uldall Kristiansen*¹ and John Hogan²

¹Technical University of Denmark [Lyngby] (DTU) – Anker Engelunds Vej 1 Building 101A 2800 Kgs. Lyngby, Denmark

²Department of Engineering Mathematics, University of Bristol ((EMUOB)) – Merchant Venturer’s Building, Woodland Road, Bristol BS8 1UB - United Kingdom, United Kingdom

Abstract

This poster will present results on the Sotomayor-Teixeira regularization of border collision bifurcations in planar piecewise smooth systems. We will describe the perturbation of associated limit cycles and pseudo-equilibria. In particular, we will show how the regularization can induce additional bifurcations not present in the piecewise smooth system.

*Speaker