

Marian Mrozek

Jagiellonian University, Poland

marian.mrozek@uj.edu.pl

The family of strongly connected components of a directed graph constructed from a transversal cellular decomposition of a flow provides an algorithmic tool in the automated rigorous analysis of the gradient structure of a dynamical system. However, it is less helpful in the study of recurrent dynamics. A combinatorial multivector field may be viewed as a directed graph whose set of vertices is a topological space. In the talk I will present some recent results based on combinatorial multivector fields which indicate their potential in automated rigorous analysis of recurrent dynamics.