One-dimensional and Two-dimensional Dynamics of cubic maps*

Djellit Ilhem Kara Amel

Key words: Cubic Diffeomorphisms, Generalized Hénon maps, Bifurcations.

Abstract

In this paper, we concentrate on the dynamics of one-dimensional and two-dimensional cubic maps, it describes how complex behaviors can possibly arise as a system parameter changes. This is a large class of diffeomorphisms which provide a good starting point for understanding polynomial diffeomorphisms with constant jacobian and equivalent to a composition of generalized Hénon maps. Due to the theoretical and practical difficulties involved in the study, computers will presumably play a role in such efforts.

*oral communication.