In Memoriam Adelina Georgescu

FINITE SINGULARITIES OF TOTAL MULTIPLICITY FOUR FOR A PARTICULAR SYSTEM WITH TWO PARAMETERS[*]

Raluca Mihaela Georgescu[†]   Simona Cristina Nartea [‡]

Abstract

A particular Lotka-Volterra system with two parameters describing the dynamics of two competing species is analyzed from the algebraic viewpoint. This study involves the invariants and the comitants of the system determinated by the application of the affine transformations group. First, the conditions for the existence of four (different or equal) finite singularities for the general system are proofed, then is studied the particular case.

MSC: 37H25, 37B05

keywords: dynamical system, affine transformations group, invariant, comitant

1   Introduction

In this paper we study a particular family of planar vector fields with two parameters modeling the dynamics of two competing populations.