

# Qualitative Theory of Planar Differential Systems (Universitext)

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## A CLASS OF KOLMOGOROV SYSTEM WITH EXACT ALGEBRAIC LIMIT CYCLE

A. Bendjedou<sup>1,3</sup>, A. Berbache<sup>2</sup>, R. Cheurfa<sup>3</sup>

<sup>1,3</sup>Department of Mathematics  
University of Setif 1  
19 000, ALGERIA

<sup>3</sup>Laboratory of Applied Mathematics  
University of setif 1  
ALGERIA

**Abstract:** A multi-parameter quartic Kolmogorov system is introduced. It is shown under suitable assumptions that at least one limit cycle can occur. This limit cycle is algebraic, analytically given and its hyperbolicity and stability fully controlled.

**AMS Subject Classification:** 34C05, 34A34, 34C25

**Key Words:** planar dynamical systems, Kolmogorov systems, population dynamics, invariant curves, periodic solutions, algebraic limit cycles

### 1. Introduction

In the framework of population dynamics, differential equations modelling the interaction of two species constitute the well known Kolmogorov system

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<sup>§</sup>Correspondence author

Universitext Qualitative Theory of Planar Differential Systems The book deals essentially with systems of polynomial autonomous ordinary differential. Qualitative Theory of Planar Differential Systems. Series: Universitext. ? The authors are leaders in their field and well-known expositors. ? Includes instruction. Editorial Reviews. Review. From the reviews: "Qualitative Theory of Planar Differential Systems is a graduate-level introduction to systems of polynomial. introduction to the qualitative theory of differential equations in the plane, . the existence of first integrals for planar polynomial vector fields through the. From the start, differential systems are represented by vector fields Qualitative Theory of Planar Differential Systems Universitext Series. 5 days ago You can download and read online PDF file Book Qualitative Theory Of Planar Differential Systems Universitext only if you are registered here. Basic Results on the Qualitative Theory of Differential Equations.- Normal Forms and Publication date: ; Series: Universitext; ISBN: (pbk.) . Qualitative Theory of Planar Differential Systems- by Joan C. Artes, , available at Book Depository with free delivery worldwide. Qualitative Theory Of Planar Differential Systems (Universitext) By Freddy Dumortier. Nowadays, it's difficult to imagine our lives without the Internet as it offers us. This book deals with systems of polynomial autonomous ordinary differential equations in two real variables. The emphasis is mainly qualitative. the qualitative theory of differential systems anywhere as well as whenever you occur as well as time. The e-book Buy Qualitative Theory of Planar Differential Systems. (Universitext) on foundationsoccer.com FREE SHIPPING on qualified orders. We putspecial emphasis onto polynomial differential systems, i.e., on systems ( ) Qualitative Theory of Planar Differential Systems Universitext (En ligne). for the mpiecewise discontinuous polynomial differential equations  $\dot{x} = y +$  of the main problems in the qualitative theory of planar differential equations in Vehrulst, Nonlinear differential equations and dynamical systems, Universitext. Equations: An Introduction - Qualitative Theory of Planar Differential Systems - Introduction Equations: Classical And Qualitative (Universitext) - The Theory of . Buy Qualitative Theory of Planar Differential Systems (Universitext) by Freddy Dumortier ( ) by (ISBN:) from Amazon's Book Store. Everyday low. Winter school on planar polynomial vector fields, Lleida, Spain, December 15, Qualitative theory of planar differential systems, UniversiText, ISBN Up to know all the examples of polynomial differential systems for which non algebraic in the qualitative theory of differential equations in the plane. There are . [1] K.I.T. Al-Dosary, Nonalgebraic limit cycles for parametrized planar polynomial systems,. Int. J. of Math. UniversiText, SpringerVerlag, New York, In this note we provide a proof relied on qualitative theory of differential .. Qualitative theory of planar differential systems, Universitext, Springer-Verlag, p.

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