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Titolo	Geometric Configurations of Singularities of Planar Polynomial Differential Systems : A Global Classification in the Quadratic Case // by Joan C. Artés, Jaume Llibre, Dana Schlomiuk, Nicolae Vulpe
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Descrizione fisica	1 online resource (xii, 699 pages)
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I -- Polynomial differential systems with emphasis on the quadratic ones -- 1 Introduction -- 2 Survey of results on quadratic differential systems -- 3 Singularities of polynomial differential systems -- 4 Invariants in mathematical classification problems -- 5 Invariant theory of planar polynomial vector fields -- 6 Main results on classifications of singularities in QS -- 7 Classifications of quadratic systems with special singularities -- Part II -- 8 QS with finite singularities of total multiplicity at most one -- 9 QS with finite singularities of total multiplicity two -- 10 QS with finite singularities of total multiplicity three -- 11 QS with finite singularities of total multiplicity four -- 12 Degenerate quadratic systems -- 13 Conclusions.
Sommario/riassunto	This book addresses the global study of finite and infinite singularities of planar polynomial differential systems, with special emphasis on quadratic systems. While results covering the degenerate cases of singularities of quadratic systems have been published elsewhere, the proofs for the remaining harder cases were lengthier. This book covers

all cases, with half of the content focusing on the last non-degenerate ones. The book contains the complete bifurcation diagram, in the 12-parameter space, of global geometrical configurations of singularities of quadratic systems. The authors' results provide - for the first time - global information on all singularities of quadratic systems in invariant form and their bifurcations. In addition, a link to a very helpful software package is included. With the help of this software, the study of the algebraic bifurcations becomes much more efficient and less time-consuming. Given its scope, the book will appeal to specialists on polynomial differential systems, pure and applied mathematicians who need to study bifurcation diagrams of families of such systems, Ph.D. students, and postdoctoral fellows.
