

1. Record Nr.	UNINA9910908362503321
Autore	Luo Albert C. J
Titolo	Two-dimensional Single-Variable Cubic Nonlinear Systems, Vol II : A Crossing-variable Cubic Vector Field // by Albert C. J. Luo
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
ISBN	9783031571084
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (246 pages)
Collana	Engineering Series
Disciplina	515.39
Soggetti	Dynamics Nonlinear theories Engineering mathematics Engineering - Data processing Functions of complex variables Plasma waves Applied Dynamical Systems Mathematical and Computational Engineering Applications Several Complex Variables and Analytic Spaces Dynamical Systems Waves, instabilities and nonlinear plasma dynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Constant and Self-Cubic Vector fields -- Self-linear and Self-cubic vector fields -- Self-quadratic and self-cubic vector fields -- Two self-cubic vector fields.
Sommario/riassunto	<p>This book, the second of 15 related monographs, presents systematically a theory of cubic nonlinear systems with single-variable vector fields. The cubic vector fields are of crossing-variables, which are discussed as the second part. The 1-dimensional flow singularity and bifurcations are discussed in such cubic systems. The appearing and switching bifurcations of the 1-dimensional flows in such 2-dimensional cubic systems are for the first time to be presented. Third-order parabola flows are presented, and the upper and lower saddle flows are also presented. The infinite-equilibriums are the switching</p>

bifurcations for the first and third-order parabola flows, and inflection flows with the first source and sink flows, and the upper and lower-saddle flows. The appearing bifurcations in such cubic systems includes inflection flows and third-order parabola flows, upper and lower-saddle flows. Readers will learn new concepts, theory, phenomena, and analytic techniques, including Constant and crossing-cubic systems Crossing-linear and crossing-cubic systems Crossing-quadratic and crossing-cubic systems Crossing-cubic and crossing-cubic systems Appearing and switching bifurcations Third-order centers and saddles Parabola-saddles and inflection-saddles Homoclinic-orbit network with centers Appearing bifurcations Presents saddle flows plus third-order parabola flows and inflection flows as appearing flow bifurcations; Presents saddle flows plus third-order parabola flows and inflection flows as appearing flow bifurcations; Explains infinite-equilibriums for the switching of the first-order sink and source flows. .
