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Titolo	Two-dimensional Self-independent Variable Cubic Nonlinear Systems / / by Albert C. J. Luo
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Soggetti	Plasma waves Dynamics Nonlinear theories Mechanics, Applied Multibody systems Vibration Waves, instabilities and nonlinear plasma dynamics Applied Dynamical Systems Engineering Mechanics Multibody Systems and Mechanical Vibrations
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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	This book is the third of 15 related monographs, presents systematically a theory of self-cubic nonlinear systems. Here, at least one vector field is self-cubic, the other vector fields can be constant, self-linear, self-quadratic, and self-cubic. For constant vector fields in this book, the dynamical systems possess 1-dimensional flows, such as source, sink and saddle flows, plus third-order source and sink flows. For self-linear and self-cubic systems, the dynamical systems possess source, sink, and saddle equilibriums, saddle-source and saddle-sink equilibriums, third-order source and sink (i.e., (3rdSO:SO)-source, (

3rdSI:SI)-sink) and third-order saddle (i.e., (3rdSO:SI)-saddle, 3rdSI:SO)-saddle). For self-quadratic and self-cubic systems, in addition to the first and third-order source, sink, saddles plus saddle-source, saddle-sink, there are (3,2)-saddle-sink, (3,2)-saddle-source and double-saddles, and for the two self-cubic systems, double third-order source, sink and saddles exist. Finally, the authors describes that the homoclinic orbits without centers can be formed, and the corresponding homoclinic networks of source, sink and saddles exist. • Develops equilibrium singularity and bifurcations in 2-dimensional self-cubic systems; • Presents (1,3) and (3,3)-sink, source, and saddles; (1,2) and (3,2)-saddle-sink and saddle-source; (2,2)-double-saddles; • Develops homoclinic networks of source, sink and saddles. .
