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   Soggetti   Dynamics
                      Nonlinear theories
                      Engineering mathematics
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                      Multibody systems
                      Vibration
                      Mechanics, Applied
                      Stochastic analysis
                      Mathematical analysis
                      Applied Dynamical Systems
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   Note generali   Includes index.

   Nota di contenuto Constant and Crossing-cubic Vector Fields -- Self-linear and Crossing-
                      cubic Vector Fields -- Self-quadratic and Crossing-cubic Vector Fields.

   Sommario/riassunto This book, the sixth of 15 related monographs, discusses singularity
                      and networks of equilibriums and 1-diemsnional flows in product
                      quadratic and cubic systems. The author explains how, in the networks,
                      equilibriums have source, sink and saddles with counter-clockwise and

clockwise centers and positive and negative saddles, and the 1-dimensional flows includes source and sink flows, parabola flows with hyperbolic and hyperbolic-secant flows. He further describes how the singular equilibriums are saddle-source (sink) and parabola-saddles for the appearing bifurcations, and the 1-dimensional singular flows are the hyperbolic-to-hyperbolic-secant flows and inflection source (sink) flows for 1-dimensional flow appearing bifurcations, and the switching bifurcations are based on the infinite-equilibriums, including inflection-source (sink), parabola-source (sink), up-down and down-up upper-saddle (lower-saddle), up-down (down-up) sink-to-source and source-to-sink, hyperbolic and hyperbolic-secant saddles. The diagonal-inflection upper-saddle and lower-saddle infinite-equilibriums are for the double switching bifurcations. The networks of hyperbolic flows with connected saddle, source and center are presented, and the networks of the hyperbolic flows with paralleled saddle and center are also illustrated. Readers will learn new concepts, theory, phenomena, and analysis techniques. Product-quadratic and product cubic systems Self-linear and crossing-quadratic product vector fields Self-quadratic and crossing-linear product vector fields Hybrid networks of equilibriums and 1-dimensional flows Up-down and down-up saddle infinite-equilibriums Up-down and down-up sink-to-source infinite-equilibriums Inflection-source (sink) Infinite-equilibriums Diagonal inflection saddle infinite-equilibriums Infinite-equilibrium switching bifurcations Develops singularity and networks of equilibriums and 1-diemsnional flows in product-quadratic and cubic systems; Provides dynamics of product-quadratic/ product-cubic systems through equilibrium network and first integral manifolds; Discovers new switching bifurcations through infinite-equilibriums of up-down upper-saddles (lower-saddles). .