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Autore	Schuster Heinz Georg <1943->
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3.4 Kaplan-Yorke Conjecture; 6.4 Pictures of Strange Attractors and Fractal Boundaries; 7 The Transition from Quasiperiodicity to Chaos; 7.1 Strange Attractors and the Onset of Turbulence; 7.1.1 Hopf Bifurcation; 7.1.2 Landau's Route to Turbulence; 7.1.3 Ruelle-Takens-Newhouse Route to Chaos; 7.1.4 Possibility of Three-Frequency Quasiperiodic Orbits; 7.1.5 Break-up of a Two-Torus; 7.2 Universal Properties of the Transition from Quasiperiodicity to Chaos; 7.2.1 Mode Locking and the Farey Tree; 7.2.2 Local Universality
7.2.3 Global Universality

Sommario/riassunto

A new edition of this well-established monograph, this volume provides a comprehensive overview over the still fascinating field of chaos research. The authors include recent developments such as systems with restricted degrees of freedom but put also a strong emphasis on the mathematical foundations. Partly illustrated in color, this fourth edition features new sections from applied nonlinear science, like control of chaos, synchronisation of nonlinear systems, and turbulence, as well as recent theoretical concepts like strange nonchaotic attractors, on-off intermittency and spatio-temporal c