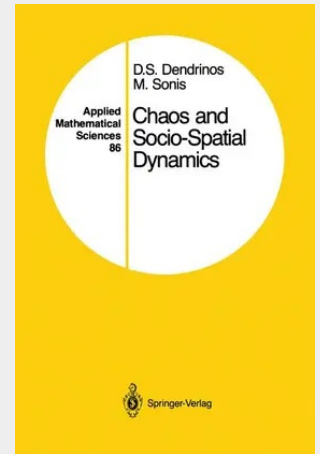


Chaos and Socio-Spatial Dynamics

Presents a discrete in time-space universal map of relative dynamics that is used to unfold an extensive catalogue of dynamic events not previously discussed in mathematical or social science literature. With emphasis on the chaotic dynamics that may ensue, the book describes the evolution on the basis of temporal and locational advantages. It explains nonlinear discrete time dynamic maps primarily through numerical simulations. These very rich qualitative dynamics are linked to evolution processes in socio-spatial systems. Important features include: The analytical properties of the one-stock, two- and three-location map; the numerical results from the one- and two-stock, two- and three-location dynamics; and the demonstration of the map's potential applicability in the social sciences through simulating population dynamics of the U.S. Regions over a two-century period. In addition, this book includes new findings: the Hopf equivalent discrete time dynamics bifurcation; the Feigenbaum slope-sequences; the presence of strange local attractors and containers; switching of extreme states; the presence of different types of turbulence; local and global turbulence. Intended for researchers and advanced graduate students in applied mathematics and an interest in dynamics and chaos. Mathematical social scientists in many other fields will also find this book useful.

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