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Nota di contenuto	1. Complexity in Earthquake Dynamics -- Geosystemics, Entropy and Criticality of Earthquakes: a Vision of our Planet and a Key of Access -- Aftershock Cascade of the 3.11 Earthquake (2011) in Fukushima-Miyagi Area -- 2. Socio-, Econo- and Biophysics -- Is it Necessary to lie to win a Controversial Public Debate? An Answer from Sociophysics -- Anticipating Stock Market Movements with Google and Wikipedia -- Nonequilibrium Quantum Dynamics of Biomolecular Excitons -- Fractal Dimensions and Entropies of Meragi Songs.- 3. Network Dynamics in Macroscale Systems -- Large-Scale Connectivity vs. Spreading Efficiency: Spectral Analysis on Explosive Percolation -- Power Grids, Smart Grids and Complex Networks -- A Spectral Approach to Synchronizability of Interdependent Networks -- Theoretical Approaches to the Susceptible-Infected-Susceptible Dynamics on Complex Networks: Mean-Field Theories and Beyond; -- 4. Quantum Network Dynamics -- Physics on Graphs -- Resonances in Quantum Networks and their Generalizations -- Quantum Graph and Quantum Filter -- From Continuous-Time Random Walks to Continuous-Time Quantum Walks: Disordered Networks -- Excitations Transfer and Random Walks on Dynamic Contacts Networks -- Ballistic Soliton Transport in Networks -- 5. Complexity in Nanoscale Systems --

Symmetry Breaking in Open Quantum Nonlinear Systems -- Charge Separation and Transport in Third Generation Hybrid Polymer-Fullerene Solar Cells -- Complex Antenna Optimization -- Complex Nonlinear Riccati Equations as a Unifying Link in Fundamental Physics -- Index.

Sommario/riassunto

Topics of complex system physics and their interdisciplinary applications to different problems in seismology, biology, economy, sociology, energy and nanotechnology are covered in this new work from renowned experts in their fields. In particular, contributed papers contain original results on network science, earthquake dynamics, econophysics, sociophysics, nanoscience and biological physics. Most of the papers use interdisciplinary approaches based on statistical physics, quantum physics and other topics of complex system physics. Papers on econophysics and sociophysics are focussed on societal aspects of physics such as, opinion dynamics, public debates and financial and economic stability. This work will be of interest to statistical physicists, economists, biologists, seismologists and all scientists working in interdisciplinary topics of complexity.
