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Sommario/riassunto	This book presents the design, proposal, development, analysis, modeling, and simulation of various neural dynamic models, along with their respective applications including motion planning of redundant manipulators, filter design, winner-take-all operation, multiple-input multiple-output system configuration, multi-linear tensor equation solving, and manipulability optimization. Specifically, starting from the top-level considerations of hardware implementation, computational intelligence methods and control theory are integrated to design a series of dynamic and noise-resistant discrete neural dynamic methods. The research not only provides theoretical guarantees on

convergence, noise resistance, and accuracy but also demonstrates effectiveness and robustness in solving various optimization and equation-solving problems, particularly in handling time-varying issues and noise perturbations. Moreover, by reducing complexity and avoiding matrix inversion operations, the models' feasibility and practicality are further enhanced. Neural Dynamics for Time-varying Problems presents different kinds of neural dynamics models with variant contributions, and further applies these models to diverse scenarios. This book is written for graduate students as well as academic and industrial researchers studying in the developing fields of neural dynamics, computer mathematics, time-varying computation, simulation and modeling, analog hardware, and robotics. It provides a comprehensive view of the combined research of these fields, in addition to its accomplishments, potentials and perspectives.