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Soggetti	Industrial Management Dynamics Nonlinear theories Production management Graph theory Applied Dynamical Systems Operations Management Graph Theory
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	From the Contents: Description of a configuration model for establishing adaptable logistics chains -- Role and Novel Trends of Production Network Simulation -- Enhancements of a Logistic Model to Improve the Time Synchronicity of Convergent Supply Processes -- On the Configuration and Planning of Dynamic Manufacturing Networks -- Network Configuration in Presence of Synchronization Requirements -- Dynamic Business Model Analysis for Strategic Foresight in Production Networks -- Switching dispatching rules with Gaussian processes -- New Mechanisms in Decentralized Electricity Trading to Stabilize the Grid System: A Study with Human Subject Experiments and Multi-agent Simulation -- Robust solution approach to CLSP problem with an

uncertain demand.

Sommario/riassunto

This contributed volume collects research papers, presented at the CIRP Sponsored Conference Robust Manufacturing Control: Innovative and Interdisciplinary Approaches for Global Networks (RoMac 2012, Jacobs University, Bremen, Germany, June 18th-20th 2012). These research papers present the latest developments and new ideas focusing on robust manufacturing control for global networks. Today, Global Production Networks (i.e. the nexus of interconnected material and information flows through which products and services are manufactured, assembled and distributed) are confronted with and expected to adapt to: sudden and unpredictable large-scale changes of important parameters which are occurring more and more frequently, event propagation in networks with high degree of interconnectivity which leads to unforeseen fluctuations, and non-equilibrium states which increasingly characterize daily business. These multi-scale changes deeply influence logistic target achievement and call for robust planning and control strategies. Therefore, understanding the cause and effects of multi-scale changes in production networks is of major interest. New methodological approaches from different science disciplines are promising to contribute to a new level comprehension of network processes. Unconventional methods from biology, perturbation ecology or auditory display are gaining increasing importance as they are confronted with similar challenges. Advancements from the classical disciplines such as mathematics, physics and engineering are also becoming of continuing importance.