

1. Record Nr.	UNINA9911011660403321
Autore	Wang Jian
Titolo	A Self Adaptive Real Time Optimization for Stochastic Dynamic System : Theory of Dynamic Correlation Integration Method and Application in Petrochemical Process // by Jian Wang
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	981-9606-32-2
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (514 pages)
Disciplina	629.8
Soggetti	Industrial engineering Automation Automatic control Mathematical optimization Industrial Automation Control and Systems Theory Optimization
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Dynamic Correlation Integration Method of Single Input System -- The Basic Theory of Dynamic Correlation Integration of SISO System -- Gradient Estimation and Real Time Optimization Algorithm of SISO System -- Dynamic Correlation Integration with Input and Output Filter -- The Convergence of Real Time Optimization Algorithm for Single-Tuning Variable System -- Simulation Research and Optimal Energy Recovery Experiment -- The Dynamic Correlation Integration Method of Multi Input System -- The Basic Theory of Dynamic Correlation Integration of MISO System -- Gradient Identification and Real Time Optimization Algorithm of MISO System -- Dynamic Correlation Integration of Multivariable System with Input and Output Filter -- Feedforward Dynamic Correlation Integration Method -- Dynamic Correlation Integration of MIMO System -- Convergence of Optimization Algorithm for Multivariable System -- Simulation of Optimization for Multivariable System -- Dynamic Correlation Integration of Cascade System -- Dynamic Correlation Integration

Optimization Method of Cascade System -- The Application of Dynamic Correlation Integration Real Time Optimization -- Real Time Optimization of Ketone-Benzol Dewaxing Process -- Real Time Optimization of FCC Reactor -- Real Time Optimization of Reforming Reactor.

Sommario/riassunto

This book introduces a real-time optimization (RTO) method based on the dynamic correlation integration (DCI) theory, which has the performances of modeling-free and self-adaptive model changes in real process. With this method, the implementation of RTO could be simplified in great deal comparing to traditional modeling way in many cases, and it especially benefits to the RTO of complex chemical reactions and the processes which are difficult to modeling. This book is applicable to real-time optimization theory researchers and practical application engineers for reference.
