

Contents

1	Introduction to the Diagnosis of Discrete Event Systems	1
1.1	Basic Definitions	1
1.2	General Classification of Fault Diagnosis Methods	3
1.3	Fault Diagnosis of Discrete Event Systems	7
1.4	Diagnosability and Co-Diagnosability Notions	9
2	Centralized Diagnosis of Discrete Event Systems	13
2.1	Introduction	13
2.2	Diagnosability Notion	14
2.3	Diagnoser Approach	16
2.4	Supervision Pattern Approach	28
3	Decentralized Diagnosis of Discrete Event Systems	35
3.1	Introduction	35
3.2	Co-Diagnosability Notion	36
3.2.1	Local Diagnosability	36
3.2.2	Independent Diagnosability	37
3.2.3	Decentralized Diagnosability	38
3.3	Decentralized Diagnosis Based on a Global Model	39
3.3.1	Decentralized Approaches with Conditional Structure	39
3.3.2	Coordinated Structure	44
3.3.3	Approaches Based on the Use of Specifications	51
3.4	Decentralized Diagnosis Without the Use of a Global Model	54
3.4.1	Approaches Based on the Use of Specifications	54
3.4.2	Approaches Based on Synchronous Composition of Local Diagnosers	55
4	Conclusion and Discussion	63
	References	67



<http://www.springer.com/978-1-4614-0030-1>

Discrete Event Systems

Diagnosis and Diagnosability

Sayed-Mouchaweh, M.

2014, VII, 69 p. 58 illus., 4 illus. in color., Softcover

ISBN: 978-1-4614-0030-1