1. Record Nr. UNINA9910484868203321

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Titolo	Differential evolution algorithm with type-2 fuzzy logic for dynamic parameter adaptation with application to intelligent control / / Oscar Castillo, Patricia Ochoa, Jose Soria
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-62133-2
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (VII, 61 p. 47 illus., 42 illus. in color.)
Collana	SpringerBriefs in applied sciences and technology. Computational intelligence
Disciplina	511.3
Soggetti	Fuzzy logic Evolution equations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This book focuses on the fields of fuzzy logic, bio-inspired algorithm, especially the differential evolution algorithm and also considering the fuzzy control area. The main idea is that these two areas together can help solve various control problems and to find better results. In this book, the authors test the proposed method using five benchmark control problems. First, the water tank, temperature, mobile robot, and inverted pendulum controllers are considered. For these 4 problems, experimentation was carried out using a Type-1 fuzzy system and an Interval Type-2 system. The last control problem was the D.C. motor, for which the experiments were performed with Type-1, Interval Type-2, and Generalized Type-2 fuzzy systems. When we use fuzzy systems combined with the differential evolution algorithm, we can notice that the results obtained in each of the controllers are better and with increasing uncertainty, the results are even better. For this reason, the authors consider in this book the proposed method using fuzzy systems and the differential evolution algorithm to improve the fuzzy controllers' behavior in complex control problems.