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Fuzzy Modeling and Fuzzy Control Systems

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In recent years, with the rapid development of advanced machine learning, artificial intelligence, robot technology, networked control methods, deep space exploration, and other fields, successful applications in fuzzy control systems or even nonlinear dynamics systems (FCS/NDSs) have emerged. The modeling, analysis, and optimal control of FCS/NDSs have received considerable attention in the last two decades. As usual, the design and analysis of classic dynamics systems rely on deterministic mathematical models. However, dynamical systems are riddled with nonlinearity, complexity and time-delay properties, which make it difficult to obtain system optimization. Certain linearization assumptions are often employed to obtain the optimal theoretical closed-form solution in FCS/NDSs, which are inconsistent with the real engineering applications. Therefore, these advanced nonlinear sciences motivate us to explore new solutions to the problems abundant in FCS/NDSs. For this Special Issue, 10 papers have been peer-reviewed and accepted for publication. These papers can be categorized into nonlinear intelligent control, and the readers can read a brief description of each paper in the preface.

