Stable and convergent iterative feedback tuning of fuzzy controllers for discrete-time SISO systems

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Abstract

This paper proposes new stability analysis and conv
Tuning (IFT) of a class of Takagi-Sugeno-Kang propo
stability analysis is based on a convenient original fo
time systems dedicated to discrete-time input affine
algorithm which sets the step size to guarantee the c
convergence condition is derived from Popov's hype
law as a nonlinear dynamical feedback system in the
based design of a low-cost PI-FC is applied to a cas
of a direct current servo system laboratory equipmer
system. A comparison of the performance of the IFT-

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FC tuned by an evolutionary-based optimization algo
advantages of our IFT approach to fuzzy control. Re

Keywords

Author Keywords: Convergence; Discrete-time inpu
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