Abstract

A robust neural NARX controller design using evolution and learning is proposed in this paper. Parameters of neural NARX controller are encoded in individual member (chromosome) of GA population. Neural NARX controller learns stabilizing response at an operating point of plant as best fitness reaches large steady value during successive generations. Stable operating region of neural NARX controller is enlarged by incrementally allowing learn more operating points. Best neural NARX controller in last generation is saved as designed neural NARX controller. Proposed approach is validated on a cart pole nonlinear plant model. Optimal stabilizing response with designed neural NARX controller over wide range of operating points is obtained.
- C. T. Lin, C. F. Juang, and C. P. Li, "Temperature control with a neural fuzzy
Robust Neural NARX Controller Design using Evolution and Learning

- M. R. Gonzalez, and O. P. Malik, "Power system stabilizer design using an online adaptive neuro-fuzzy controller with adaptive input link weights," IEEE Trans. on...
robust neural narx controller design using evolution and learning


Index Terms

Computer Science

Artificial Intelligence
Keywords