

Development & Comparative Analysis of an Adaptive Fuzzy Logic LFC control model for Gain Scheduling using Fuzzy Logic & Adaptive Fuzzy Techniques

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ABSTRACT

In this paper, the recent data based artificially intelligent techniques like fuzzy and neural network have been customized and used. The application/case study has been taken. Fuzzy provides a robust inference mechanism with no learning and adaptability and artificial neural network provides learning and adaptability. Artificial neural networks and fuzzy systems have been successfully applied to the LFC problem with rather promising results. In this paper, an adaptive fuzzy gain scheduling scheme for conventional PI controllers has been simulated and tested for off-nominal operating conditions. From the simulation and the result obtained in this paper, it has been shown that the proposed adaptive fuzzy logic controller offers better performance than fixed gain controllers & fuzzy gain controller. Comparative analysis of percentage error of gain using fuzzy & adaptive fuzzy has also been done in this paper.

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