Abstract

In this paper, a fuzzy C-means controller proposed to the generation of optimal fuzzy rule base by Fuzzy C-Means clustering technique (FCM) for load frequency control in deregulated environment. The phase-plane plot of the inputs of the fuzzy controller is utilized to obtain the rule-base in the linguistic form. The proposed method is tested on a two-area power system with different contracted scenarios under various operating conditions. The results of the proposed controller are compared with the fuzzy PID controller and conventional PID controller to illustrate its robust performance. These comparisons demonstrate the superiority and robustness of the proposed controller.

Index Terms
Computer Science Control Systems

Keywords
LFC  Fuzzy PID Controller  Fuzzy C-means Controller  Deregulated Environment