عنوان مقاله:

Multi-Stage Fuzzy Load Frequency Control Based on Multi-objective Harmony Search Algorithm in Deregulated Environment

محل انتشار:

مجله بهره برداری و اتوماسیون در مهندسی برق, دوره 1, شماره 1 (سال: 1392)

تعداد صفحات اصل مقاله: 11

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خلاصه مقاله:

A new Multi-Stage Fuzzy (MSF) controller based on Multi-objective Harmony Search Algorithm (MOHSA) is proposed in this paper to solve the Load Frequency Control (LFC) problem of power systems in deregulated environment. LFC problem are caused by load perturbations, which continuously disturb the normal operation of power system. The objectives of LFC are to mini small size the transient deviations in these variables (area frequency and tie-line power interchange) and to ensure their steady state errors to be zero. In the proposed controller, the signal is tuned online using the knowledge base and fuzzy inference. Also, to reduce the design effort and optimize the fuzzy control system, membership functions are designed automatically by the proposed MOHSA method. Obtained results from the proposed controller are compared with the results of several other LFC controllers. These comparisons .demonstrate the superiority and robustness of the proposed strategy

کلمات کلیدی:

Load frequency control, Multi-Stage Controller, HSA, Deregulated Environment