

## عنوان مقاله:

A Disturbance Observer Based Fuzzy Feedforward Proportional Integral Load Frequency Control of Microgrids

## محل انتشار:

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## خلاصه مقاله:

In this paper, the load frequency control problem of microgrids in islanded operation mode is tackled using Fuzzy Feedforward PI (FFPI) controller. To this end, a feedforward loop is considered in the control structure of the microgrid in addition to the classical feedback controller wherein a proportional integrator controller is used. The disturbance signal, which can be load variations or renewable energy resources uncertainties, is estimated using a disturbance observer. The understudy microgrid includes wind turbine and solar cells as renewable sources, and a diesel generator and loads. A fuzzy controller is also used for pitch angle control of the wind turbine, which may smooth out the generated power and improve the frequency control of microgrid. To show the capability of the proposed strategy, two different scenarios are considered and the obtained simulation results easily approve the efficiency of the proposed structure for load frequency control of microgrid in islanded operation mode.

## کلمات کلیدی:

microgrid, Load Frequency Control, Fuzzy Feedforward PI-Controller, Disturbance Observer

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1250085>

