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科技英文

期末報告

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出處：International Journal of Electrical Power & Energy Systems

Volume 60, September 2014, Pages 6 - 13

(1)文章標題之翻譯。

Frequency regulation for large load variations on micro-hydro power plants with real-time implementation

(微型水力發電廠的頻率調節即時具有實現運行大負荷的變化)

(2)摘要內容翻譯。

Micro-hydro power plants (MHPP) are usually built on mountains to provide electricity for rural communities. However, most of them are isolated from the national grid; thus, they require good control system to ensure the stability of both MHPP frequency and voltage

outputs in spite of varying users load. This paper treats a new approach for frequency regulation of a MHPP against large load variations. For our simulation studies, a MHPP model is constructed from the mains physical equations that describe the nonlinear behavior of the plant. A self-tuning fuzzy proportional–integral (PI) controller, in which the controller gains are adjusted in real-time using a fuzzy logic inference system, is proposed. To demonstrate the effectiveness of the proposed controller, practical results under different loading conditions are presented. Those results show overall a good correlation between the computer simulation and the field-testing data.

(微型水力發電廠通常是依山而建，提供的電力為農村社區。然而，其中大部分來控管隔離國家電路， 因此他們需要良好的控制系統，以確保不同的用戶負載都置安心的頻率和電壓輸出的穩定性，本文把對於 MHPP 的頻率調節和大負荷變化嘗試了新方法。我們的模擬研究中，MHPP 模型是從描述該機器的非線性特性的水管物理方程式所構成的。一種自整定模糊比例積分（PI）控制器，其中控制器增益使用的是模糊邏輯推理系統調整的實時性，證明了該控制器的有效性，不同加載條件下的實際結果。這些結果表明，計算機模擬和現場測試數

據之間總體良好的相關性。）

(3)句型分析

1. This paper treats a new approach for frequency regulation of a MHPP against large load variations.

This paper 主詞

treats 動詞

a new approach for frequency regulation of a MHPP against large load variations.皆為受詞

2. A self-tuning fuzzy proportional–integral (PI) controller, in which the controller gains are adjusted in real-time using a fuzzy logic inference system, is proposed

A self-tunning 到逗號前面是主詞

in which 到 逗號前面是關代句 形容前面的主詞

is proposed 真正的動詞

3. Those results show overall a good correlation between the computer simulation and the field-testing data.

Those results 主詞　show 動詞 後面的都是受詞

a good correlation 是受詞

between A　and B 是 修飾 a good correlation

英文單字:

1. usually　通常	2. However 然而.但是.可是
3. good　好 .良好	4. Built　建
5. between　之間.介	6. System　系統
7. power　功率.力量	8. Electricity 電力
9. isolated　孤立	10. Computer　電腦