الآية

قال تعالى :

"وَفَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ"

يوسف 76

Dedication

To the human teacher,,
Prophet Muhammad peace be upon him.

To the man who carried me on his right shoulder and on the other shoulder carried all the worries of the world
Who was a help to me in seeking knowledge, my father.

To the crown of my head
To the light of my way
To whom she was praying at night for my success, my mother.

to my husband for his support and patient

To those who were my strength after God
To those who taught me the science of life, my sisters.

To those who donates their time and knowledge, my teachers.

Acknowledgement

Even if we collected all the letters of the language we won't thank you enough,,
Thanks and gratitude to our teacher and the supervisor of this project

Thanks for your knowledge, thanks for your time, thanks for you.

Abstract

The objective of the thesis is to introduce the importance of Economic load Dispatch in a power system. The Economic Dispatch means, to find the generation of the different units in the power system so that the total fuel cost is minimum and at the same time the total demand and transmission line losses at any instant must be met by the total generation considering the generation limits constrain. These constraints formulates the economic dispatch for finding the optimal power flow of all the online generating units that minimizes the total fuel cost, while satisfying an equality constraint and a set of inequality constraints. The thesis discuss how the Economic Dispatch problem being solved by using the methods of Newton Raphson (NR) and Particle Swarm Optimization (PSO). The two methods had been implemented to IEEE 39 New England test system by using MATLAB software R2010a .The results of the two methods after simulation in MATLAB were analyzed and conclude that the Particle Swarm Optimization method is more efficient than the Newton Raphson method.

المستخلص

الهدف من هذا البحث التعريف بأهمية التوليد الاقتصادي لمنظومة القدره. تعريف التوليد الاقتصادي هو ايجاد التوليد الامثل لجميع الوحدات في منظومة القدره لجعل مجموع تكلفة الوقود هي الأقل ،مجموع الطلب و المفاقيد اللحظيه يساوي مجموع التوليد مع مراعاة حدود التوليد. حدود التوليد تساعد في ايجاد تدفق القدره الامثل من جميع الوحدات لتقليل تكلفة الوقود الكليه مع مراعاة حدود المساواة و عدم المساواة. هذه الاطروحه تناقش حل مشكلة التوليد الاقتصادي باستخدام طريقة نيوتن رافسون وطريقة استمثال عناصر السرب. تم تطبيق الطريقتين لمنظومة 39 قضيب توصيل لانكلترا الجديدة الاختباريه. في برنامج الماتلاب و تم المقارنه بين نتائج الطريقتين وجد ان طريقة استمثال عناصر السرب اكثر كفاءه من طريقة نيوتن رافسون، وتم تصميم البرنامج ليطبق لأي عدد من وحدات التوليد لكلا الطريقتين.