الآية

(وَقُلِ اعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ وَرَسُولُهُ

وَالْمُؤْمِنُونَ ۖ وَسَتُرَدُّونَ إِلَىٰ عَالِمِ الْغَيْبِ وَالشَّهَادَةِ

فَيُنَبِّئُكُم بِمَا كُنتُمْ تَعْمَلُونَ)

صدق الله العظيم

التوبة(105)

Dedication

This work is dedicated to my beloved parents, who have always loved me unconditionally and whose good examples have taught me to work hard for the things that I aspire to achieve. Also I dedicated to all the people in my life who touch my heart.

ACKNOWLEGMENT

In the name of Allah, the Beneficent, the Merciful, first praise is to Allah, the Almighty, on whom ultimately we depend for sustenance and guidance. Second my sincere gratitude goes to my supervisor,

Ustaz. Abdalla Salih Ali, whose encouragement, guidance and support were really valuable during every stage of this research.

I also offer my regards to the School of Electrical and Nuclear Engineering, Sudan University of Science and Technology, its leadership and the staff for providing me with an academic base, which has enabled me to take up this study.

Finally, I would like to express the profound gratitude to my beloved family and friends who supported me in any respect during the completion of the research.

ABSTRACT

This research investigates the stabilization of the inverted pendulum system based on a full state- feedback controller via pole placement method where the closed loop poles to be placed at desired locations. The efficiency of the pole placement technique has been verified the MATLAB/SIMULINK software. Simulation results show good match between predicted and actual outputs.

المستخلص

هذا البحث لفحص استقراريه نظام البندول المعكوس اعتمادا على وحدة تحكم الحالة للتغذية الخلفية عبر طريقة احلال القطب حيث توضع اقطاب الحلقة المغلقة فى مواقعها المرغوبة .تم التحقق من كفاءة تقنية احلال الاقطاب باستخدام برنامج MATLAB/SIMULINK ، حيث اظهرت نتائج المحاكاة تطابق جيد بين المخرجات المتوقعة والفعلية.

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