

الاية

قال تعالى:

((وسارعوا الى مغفرة من ربكم وجنة عرضها السموات والأرض أعدت للمتقين))

آل عمران (133)

الاهداء

كل الشكر والعرفان الى كل من ساهم في اخراج هذا البحث وللساتذه
الاجلاء

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ABSTRAC

We must study the dynamic performance of induction motors at different conditions to be sure that its work in perfect way. In this project we analyze and study two induction motors one of them have large power, the other one has small power. At first we applied a full voltage at the both motors, then we applied partial voltage by delta- star starter, then we applied mechanical load and after little seconds depose it. And then we extraction the results.

مستخلص

لا بد من دراسة ديناميكية المحركات الحثية عند ظروف مختلفة لضمان تشغيلها بصورة مثلى. في هذه الدراسة تم تحليل ودراسة محركين حثيين, أحدهما ذو قدرة كبيرة والآخر ذو قدرة صغيرة. أولاً تم تسليط الجهد الكامل علي كل من المحركين بعدها تم تسليط جهد جزئي عنى طريق بادئ حركه نجمة- دلتا, ومن ثم تم ادخال حمل ميكانيكي وعزله بعد فترة وجيزة ومن ثم إستخلاص النتائج.

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LIST OF SYMBOLS

v_R, v_Y, v_B	Stator voltages V
v_r, v_y, v_b	Rotor voltages V
i_R, i_Y, i_B	Stator currents A
i_r, i_y, i_b	Rotor currents A
v_A, v_B, v_a, v_b	Stator and rotor voltages on A,B axis V
v_D, v_Q, v_d, v_q	Stator and rotor voltages on D,Q axis V
i_A, i_B, i_a, i_b	Stator and rotor currents on A,B axis A
i_D, i_Q, i_d, i_q	Stator and rotor currents on D,Q axis A
R_s	Stator resistance Ω
R_r	Rotor resistance Ω
L_s	Stator inductance H
L_r	Rotor inductance H
M	Stator to rotor mutual inductance
M_s	Stator to stator mutual inductance
M_r	Rotor to rotor mutual inductance
θ	Stator angle
ω_r	Mechanical speed r.p.m
J	Moment of inertia kg/m^2
s	Slip
F	Frequency Hz
p	Pole
R_m	No load resistance Ω
X_m	No load inductance Ω
X_{ir}	Rotor mutual inductance
X_{is}	Stator mutual inductance
T	Torque N/m^2
T_b	Breakdown Torque N/m^2
$C1$	Phase transformations
$C2$	Commutator transformations
T_e	Electrical torque N/m^2
T_m	Mechanical torque N/m^2

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