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IMPROVINGSTARTINGCHAR**ACTERISTICS OF SQUIRREL-CAGE MOTOR BY USING V/F CONTROL METHOD**

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**ABSTRACT:-**

This paper presents one of the most successful method controllers of 3-phase squirrel-cage IM motor which is employing V/F method with application of pulse width modulation (PWM), this dynamic model is implemented using Mat Lab simulation program. The improved techniques of suggested model presents high performance of improving the starting characteristics (starting current , starting torque) of the double comparison with single-cage IM using PWM techniques at constant V/F control. Simulation results refers to the characteristics of double-cage better than single cage and shows that the satisfy performance and good response of this model.

**Keywords:-** Induction motor IM, single, double cage, V/F control and PWM technique.

**الخلاصة:***-*

يقدم هذا المقال واحدة من اهم طرق السيطرة الناجحة للمحرك ثلاثي الاطوار ذات القفص السنجابي والذي يعمل بطريقة

V/F مع تطبيقات لمضمن عرض الحزمة ) (PWM هذا النموذج الديناميكي يعمل باستخدام برنامج المحاكاة Mat Lab .

التقنيات المحسنة للنموذج المقترح تقدم الاداء العالي لتحسين خصائص البدء )تيار البدء، عزم البدء( للمحرك ثنائي القفص مقارنة

مع المحرك احادي القفص ثلاثي الاطوار باستخدام تقنية مضمن عرض الحزمة عند مسيطر V/F ثابتة.نتائج المحاكاة تشير الى

ان الخصائص لثنائي القفص هي افضل بكثير من احادي القفص وتبين الاداء المحسن والاستجابة الجيدة لهذا النموذج.

***-*:TRODUCTION IN-1**

The construction of three- phase induction motors haven’t any mechanical commutations therefore these types of the motors are use in most of industrial application. [5], [6], [2], [9]. The induction motor has large speed range, high robustness and efficiency, low manufacturing cost. [6],[10].The cage-type machine of induction drives have applications in the industry that include:- textile mills , papers, fans, pumps , air-conditioners, heat pumps , rolling mills and wind generation systems, vehicles, home applications , machines tools robotics .The range power of these machines cover fractional and horse-power to megawatts. In this time there is most application in the process control because the energy saving aspect to variable- frequency drives. [2].All these applications have drastic move away from analogue motor control to precision digital control that use variation processors digital control of induction motor results led to more efficient operation of the motor gives lower power dissipation and longer life wide. Today the various control techniques of induction motor are generating variable frequency supply that V/F is the constant ratio of voltage to