Development of Multilevel Inverter for Speed Control of Three Phase Induction Motor by using PWM Technique

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I. INTRODUCTION

Electrical Energy already constitutes more than 30 % of all energy usage on Earth. And this is set to rise in the coming years. Its massive popularity has been caused by its efficiency of use, ease of transportation, ease of generation, and environment-friendliness. Part of the total electrical energy production is sued to produce heat, light, in electrolysis, arc-furnaces, domestic heating etc. Another large part of the electrical energy production is used to be converted into mechanical energy via different kinds of electric motors- DC Motors, Synchronous Motors and Induction Motors. Induction Motors are often termed the “Workhorse of the Industry”. This is because it is one of the most widely used motors in the world. It is used in transportation and industries and also in household appliances, and laboratories. The major reasons behind the popularity of the Induction Motors.

II. OPEN LOOP SIMULATION IN MATLAB

It is present, multilevel inverters are extensively used in industries for high power and high voltage applications. Two categories into which inverters can be broadly classified are two level inverters and multilevel inverters and three level inverter in various application purpose have compared to two level inverter is minimum harmonic distortion. Deals with study and analysis of three level diode clamped MOSFET based inverters and its applications in industries. The main purpose of the paper is to study and implement 3 level diode clamped inverter using MOSFET’s, the PWM signals used to switch these MOSFET’s has been generated using PWM However, the Output voltage is smoother with a three level converter, these results in smaller harmonics, but on the other hand it has more components and i little Hardware Development open loop simulation model.
III. CONCLUSION

Speed control of three phase induction motor in open loop with help of MATLAB simulation we conclude that open loop simulation voltage almost constant and torque and current increased proportional also speed will be decreased in various intervals.

IV. FUTURE WORK

In an induction motor speed control is open loop completed in spwm methods, now close loop control with help of pi controller andsvpwm technique or implement hardware of (3level) for the speed control of three phase induction motor.

REFERENCES


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