CHAPTER 6

CONCLUSIONS AND SCOPE FOR FURTHER STUDY

6.1 Conclusions

Induction motor is utilized in many real world applications that is based on speed. Direct Torque Control scheme is a most preferred technique in the speed control application which controls the speed of the induction motor by controlling the torque and flux variation. The stator current oscillation that arises in the DTC scheme is resolved in the proposed research work, replacing the random assumption of stator flux and torque estimator values which is used to control the variation. This is done by using the Bacterial Foraging optimization Algorithm which will be given with the input values as phase currents, based on which stator flux and torque values would be estimated optimally. This proposed approach can lead to better optimization result where the optimal values of stator flux and torque values can eliminate the stator current oscillation problem. The simulation results that are obtained have been proved that the proposed research methodology provides better performance than the existing research methodologies.

6.2 Scope for Further Study

The directions for further study of this thesis involves the implementation of the direct torque control by neural, fuzzy and neuro-fuzzy controllers. Also optimization techniques like genetic algorithms, ant colony optimization algorithm can be implemented for accurate and efficient control of motor with fewer ripples extending the area of research to a better level. The study state performance such as torque and flux ripples of an induction motor may be reduced, the efficiency and the performance of an induction motor can be improved by reducing the stator current oscillations. In future it is scheduled for experimental test using practical high power induction motor.