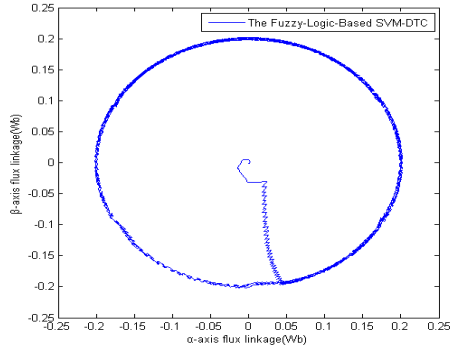

Figure 7. Stator flux linkage of Fuzzy-Logic-Based SVM-DTC

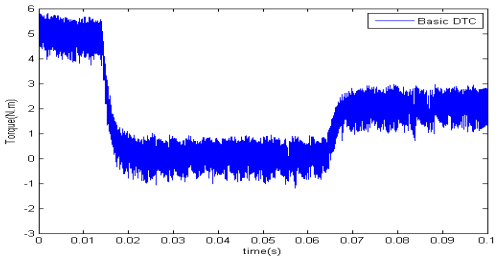

Figure8. Torque of Basic DTC

Fig. 10 shows when the stator resistance changed to 1.5 times its actual value at 0.035 second, the system without fuzzy controller becomes unsteady .In the paper we estimate the stator resistance through a fuzzy controller. Fig. 9 shows there has little influence on the system which use a fuzzy controller to estimate the stator resistance when the stator resistance changed at 0.035 second.

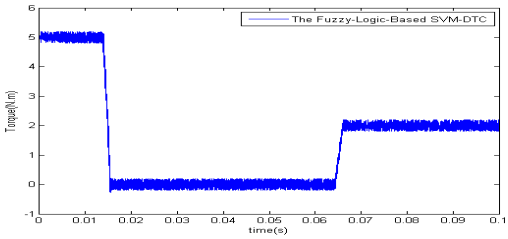

Figure 9. Torque of Fuzzy-Logic-Based SVM-DTC

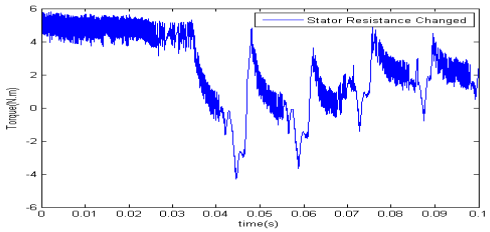

Figure 10. Simulation of Basic DTC when stator resistance changed

VI. CONCLUSION

In this paper, a fuzzy logic based estimator for stator resistance is designed to predict the variation of the stator resistance. And in order to decrease the cripple in stator flux linkage and torque we use a SVM-DTC instead of the basic DTC. The simulation results show that the proposed method can estimate stator resistance and keep the estimated flux and torque with the reference value even in dynamic mode. This estimator is particularly effective at a low speed when the variation of resistance can not be neglected.

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