The MATLAB Simulation Of A Single Phase STATCOM And Transmission Line

Abstract-

As an important member of FACTS family, STATCOM (Static Synchronous Compensator) has got more and more widely application. However conventional STATCOM is based on self commutated devices such as GTO, IGBT and MOSFET.

This paper reports a development of simulation and laboratory model of single phase voltage source converter based STATCOM as a superior approach to maintain the voltage profile of the AC system and AC transmission line. MATLAB Simulation of STATCOM gives results of power exchange with ac system for different firing angles.

This boosts confidence for building the experimental hardware of STATCOM. Sinusoidal Pulse Width Modulation (SPWM) technique is used to trigger the IGBT provides an advantage of simple triggering method and reduced harmonics level. This paper highlights the results obtained from the simulation of STATCOM as well as discussing some of the recommendations for future development.
Block Diagram:-