

Z-source Inverter Based DSTATCOM

Jogeswara Sabat*

Vignan Institute of Technology and Management, Department of Electrical and Electronics Engineering, Odisha, India

***Corresponding Author:** Jogeswara Sabat, Vignan Institute of Technology and Management, Department of Electrical and Electronics Engineering, Odisha, India

Received: February 27, 2023; **Published:** March 02, 2023

Nowadays, the different custom power topologies are being competed in the utility market and also, their impact is compared on the basis of shunt compensation. By keeping the improved design of the DSTATCOM in the power system, there are critical issues to maximize the advantage of the existing device. Also, possible synchronization between different compensators for the purpose of achieving better PQ solutions is studied. Still, Power engineers and scientists are looking forward to launching a new compensator to strengthen its filtering competency and have a competitive edge on PQ issues. Depending on the application, the inverter requires specific features such as voltage gain, size, efficiency, cost etc. Voltage source inverters (VSIs) and current source inverters (CSIs) are two well known inverters widely used in various applications. Since VSI reduces the voltage level where as CSI increases the voltage. But both have a limit in compensation capability . The above drawbacks of VSI and CSI were solved by the impedance source inverter (ZSI) family. The X-shape ZSI consists of two inductors and two capacitors. Its configuration cause to increase its boost capability in one stage through a shoot-through state. In other words the upper and lower switches of its leg are turned on simultaneously, which is impossible in the traditional VSI.

Volume 4 Issue 3 March 2023

© All rights are reserved by Jogeswara Sabat., et al.