

## **Abstract**

The faulty performance of six diodes three phase rectifier is studied under one and two simultaneous open-diodes conditions. This rectifier is feeding a resistive load. The rectifier three phases currents zero harmonic components and their maximum and minimum values are used as diagnostic indices. A knowledge algorithm is based to get information on which diode is in open-switch fault condition. This algorithm testing shows that the system could not only detect the open-switch fault, but also identify the faulty switches. Presented simulation results confirm the effectiveness of the proposed methodology