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Sensitive equipment and non-linear loads are now more common in both the industrial/commercial sectors and the domestic environment. Because of this a heightened awareness of power quality is developing amongst electricity users. Therefore, power quality is an issue that is becoming increasingly important to electricity consumers at all levels of usage. This article presents the fuzzy system to determine the power quality. The performance of three-phase induction motor is observed for different power quality conditions in laboratory.

The power quality is in terms of voltage is intentionally disturbed by means of three-phase motor alternator set and chopper circuit. It is observed that the fuzzy system is able to make correct diagnosis of power quality. It is also observed that as the power quality become poor, the motor efficiency decreases, causing significant rise in power input to meet the rated load demand, and thereby rise in electric bill.


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