Abstract

The main objective of this paper is to design and developed a model of power system transmission lines fault identification using Local Outlier Factor (LOF) technique based on data mining. 9 bus power system and 30 bus power systems overhead transmission line fault of are simulated as a test cases using PowerWorld software and the LOF computations using Matlab software. The proposed model consists of two main steps; the first step is used to determine single line-to-ground (SLG) fault and 3 phase fault. The second step was used to determine line-to-line (LL) fault and double line-to-ground (DLG) fault. The second step is required uninterrupted phase voltage in order to distinguish between LL fault and DLG faults. The proposed model successfully identified asymmetrical faults and symmetrical faults that particular single bus fault.

**Index Terms**

Computer Science 

Circuits and Systems

**Keywords**

Power system, asymmetrical faults, symmetrical fault, Transmission lines