Presenting a Model for Making a Comparison of Bayesian Networks and Decision Tree Algorithms in Intrusion Detection Systems-Based on Data Mining

Fazli-Maghsoudi H. and Momeni H.

ABSTRACT:

By development of information technology, network security is considered as one of the main issues and has great importance. Many researchers have focused on this area. One of the most common methods of data mining is the decision tree. Hence, in this paper, the network security in data mining is studied. The simulations were performed using the J48 algorithm and SVM on the KDDCUP 1999 database. The results of simulation suggest that J48 algorithm has the highest precision of 85.49% for the intrusion detection system.

Key words:

abnormal packet, Bayesian networks, data mining, decision tree, intrusion detection systems, normal packet.

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Performance Comparison of STATCOM & SVC in Reactive Power Control Strategy For Wind Farm

Original Research, C2

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M.


ABSTRACT:

In this paper the wind farm reactive power control strategy introduced by the STATCOM and SVC. First, the STATCOM system is introduced and then the SVC system is discussed. The comparison of the two systems is performed by simulation. All results, obtained in the MATLAB software simulation.

Key words:

Doubly-Fed Induction Generator (DFIG), Wind Farm.
Performance Evaluation of Three-Phase Induction Motor Fed by unbalanced voltage Combined with Over- or Under Voltage Using Finite Element Method

Original Research, C3
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ABSTRACT:
Unbalanced voltages can exist anywhere in a three-phase power distribution system. Thus, investigation of their effects is crucial for electrical engineers. The present work considers the impact of unbalance on the performance of the induction motor by using finite element method. The complex voltage unbalance factor (CVUF) is defined in this study to evaluate the unbalance in the motor. The results indicate that unbalance has a significant effect on the motor's efficiency, losses, and torque. Key words: CVUF, Efficiency, Induction Motor, Losses, Torque.

Conceptual comparison of Line-Start Permanent Magnet Synchronous and Induction Machines for Line-fed of different conditions

Original Research, C4
Hosseinzadeh Soreshjani M., Sadoughi A.

ABSTRACT:
This study presents a comparative analysis of an Induction Machine (IM) and its equal Line-Start Permanent Magnet Synchronous Motor (LSPMSM) under line-fed conditions. The analysis reveals that the LSPMSM shows a better steady-state response of an LSPMSM rather than its IM, if its synchronized problems could be obviated. Key words: Line-Start Permanent Magnet Synchronous Motor (LSPMSM), Induction Motor (IM), Line-fed, Voltage sag conditions.
Voltage Sag Evaluation during Induction Motors Starting Using Artificial Neural Network

Sadoughi A., Sadeghkhani I.

ABSTRACT:
One of the most important concerns in electrical systems is to deliver energy to the consumers with high power quality. Induction motors, as one of the most important consumers of electrical energy, are especially vulnerable to voltage sag conditions. In this paper, the characteristics of voltage sag are evaluated in this work using artificial neural network (ANN). Both multilayer perceptron (MLP) and radial basis function (RBF) structures have been analyzed. Six learning algorithms, backpropagation (BP), delta-bar-delta (DBD), extended delta-bar-delta (EDBD), directed random search (DRS), quick propagation (QP), and levenberg marquardt (LM) were used to train the MLP. The simulation results show that proposed technique can estimate the voltage sag characteristics with good accuracy. Also, it is shown that the LM and EDBD algorithms present better performance for evaluating of voltage sag magnitude and duration.

Key words: Induction motors, multilayer perceptron, motor cable, radial basis function, voltage sag.