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 ... 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.

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

Original Research, C2
Ahmadi Kamarposhti, M.

ABSTRACT: In this paper the wind farm reactive power control strategy using STATCOM and SVC was presented. The control strategy is implemented in the DFIG wind farm with an associated STATCOM and SVC. The wind farm, control strategy, and FACTS devices are modeled in MATLAB simulation and the results of simulation are presented.

Key words: Doubly-Fed Induction Generator (DFIG), Wind Farm, STATCOM, SVC, Reactive Power Control.
Performance Evaluation of Three-Phase Induction Motor Fed by unbalanced voltage Combined with Over- or Under Voltage Using Finite Element Method

Original Research, C3
Ebadi A., Mirzaie M., Gholamian S.A.

ABSTRACT: Unbalanced voltages can exist anywhere in a three-phase power distribution system. Thus, investigation of their effects is critical. The complex voltage unbalance factor (CVUF) is introduced as a novel parameter that quantifies the level of voltage unbalance. The CVUF consists of voltage magnitude and angle, providing a comprehensive description of the voltage unbalance. The impact of CVUF on the performance of an induction motor is evaluated using the finite element method. The results show that the CVUF significantly affects 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 a Line-Start Permanent Magnet Synchronous Motor (LSPMSM) and an Induction Motor (IM) under various line-fed conditions. The analysis includes performance metrics such as efficiency, losses, and torque. The results indicate that the LSPMSM generally outperforms the IM in terms of efficiency and torque, especially under voltage sag conditions. 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

ABSTRACT:
One of the most important concerns in electrical systems is to deliver energy to the consumers with high power quality. Power quality problems are significantly increased in the recent years due to the increasing number of nonlinear loads. Voltage sag, as a critical power quality problem, affects the performance of electronic devices. Currently, artificial neural networks (ANNs) are widely used to solve many problems in power systems. In this work, 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 the 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 voltage sag magnitude and duration.

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