Presenting a Model for Comparison of Bayesian Networks and Decision Tree Algorithms

Fazli-Maghsoudi H. and Momeni H.

ABSTRACT:

Performance Comparison 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

Key words: Doubly-Fed Induction Generator (DFIG), Wind
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 on induction motors becomes critical. This paper aims to evaluate the performance of an induction motor under unbalanced voltage conditions, using finite element method. The complex voltage unbalance factor (CVUF) is considered as a measure of the unbalance in the system. The results show that efficiency and torque are significantly affected by the level of voltage unbalance.

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 (LSPMSM) machines for line-fed operation under various conditions. The analysis reveals that the LSPMSM shows a better steady-state response compared to the IM, especially in the presence of voltage sag conditions. The results highlight the advantages of using LSPMSM in practical applications.

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. The occurrence of voltage sags is a major problem for electrical systems. The effect of voltage sags on the load is significant, and it is recommended to prevent the occurrence of voltage sags. In this work, the features of voltage sag are evaluated 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 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 the voltage sag magnitude and duration.

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