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

Fazli-Maghsoudi H. and Momeni H.

ABSTRACT:

In this paper the wind farm reactive power control is implemented using STATCOM and SVC. The performance of the proposed control strategy is demonstrated through simulations using MATLAB software. The results show that the STATCOM has a better performance in terms of voltage regulation compared to SVC.

Key words: Doubly-Fed Induction Generator (DFIG), Wind Farm.
<table>
<thead>
<tr>
<th>Title</th>
<th>Volume: Issue: 2014</th>
<th>Authors</th>
<th>Journal</th>
<th>Pages</th>
</tr>
</thead>
</table>

**ABSTRACT:**

Unbalanced voltages can exist anywhere in a three-phase power distribution system. Thus, investigation of their effects is important. In this paper, the performance evaluation of induction motors fed by unbalanced voltages is studied. The complex voltage unbalance factor (CVUF) is used to quantify the severity of voltage unbalance. The effects of voltage unbalance on the performance of induction motors are studied using finite element method. The results show that the CVUF has a significant impact on the efficiency, losses, and torque of the induction motor.

**Key words:**

CVUF, Efficiency, Induction Motor, Losses, Torque.

This study presents a comparative analysis of an Induction Machine (IM) and its equal Line-Start Permanent Magnet (LSPMS) and Induction Machines (IM) for Line-fed of different conditions. The results show that the LSPMSM has a better steady-state response than the 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

ABSTRACT:
One of the most important concerns in electrical systems is to deliver energy to the consumers with high power quality. Therefore, proper planning and action to prevent voltage sag are vital. In this paper, the 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.