S-TRANSFORM-BASED DECISION TREE SYSTEM FOR POWER QUALITY DISTURBANCES CLASSIFICATION

THE S-TRANSFORM-BASED DECISION TREE SYSTEM FOR THE CLASSIFICATION OF POWER QUALITY DISTURBANCES

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Tóm tắt bằng tiếng Việt:

In this paper, a new method for the classification of various types of power quality (PQ) disturbances has been presented. In the proposed method, five features which represent the distinctive characteristics of PQ disturbances and reduce data size are extracted from the PQ disturbances by using the S-Transform (ST). Then decision tree (DT) algorithm is applied to classify the nine types of PQ disturbances. The disturbance signals which are generated by using Matlab/Simulink are used to evaluate the performance of the proposed method. According to the obtained results, the proposed method classifies various types of PQ disturbances with high accuracy.Then decision tree (DT) algorithm is applied to classify the nine types of PQ disturbances. The disturbance signals which are generated by using Matlab/Simulink are used to evaluate the performance of the proposed method. According to the obtained results, the proposed method classifies various types of PQ disturbances with high accuracy.

Từ khóa: S-transform; Decision tree; Power Quality Disturbances; Classification; Decision tree

Tóm tắt bằng tiếng Anh:

In this paper, a new method for the classification of various types of power quality (PQ) disturbances has been presented. In the proposed method, five features which represent the distinctive characteristics of PQ disturbances and reduce the data size are extracted from the PQ disturbances with the use of the S-Transform (ST). Then decision tree (DT) algorithm is applied to classify the nine types of PQ disturbances. The disturbance signals which are generated via Matlab/Simulink are used to evaluate the performance of the proposed method. According to the obtained results, the proposed method classifies various types of PQ disturbances with a high accuracy.

Key words: S-transform; decision tree; power quality disturbances; classification.