

THE APPLICATION OF FUZZY ENTROPY TO SELECTING FEATURES OF PARTIAL DISCHARGE IN HIGH VOLTAGE CABLE JOINTS

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Abstract:

Partial discharge (PD) measurement is one of the most important diagnostics methods of insulation systems in high voltage equipment. PD activities may stem from various kinds of defects, and its characteristics correspondingly behave differently. In this study, 104 features of partial discharge are collected through a series of experiments in laboratory, which are large dimensionality data set. However, not all of features are useful for classification and recognition, so the problem needed to solve is the selection of the relevant features and elimination of non-important features. The fuzzy entropy algorithm was applied to find out features owning characteristics for distinguishing the defects in high voltage cable joints.

Key words: High voltage cable joint; Partial discharge; Feature selection; Fuzzy entropy; Recognition.