

## عنوان مقاله:

High Frequency Components of Feeder Current as Diagnostic Tool to Study Contamination Conditions of Outdoor Insulators in Power Distribution Networks

## محل انتشار:

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## خلاصه مقاله:

The aperiodic occurrence of widespread contamination related outages is a problem that distribution utilities are faced. These faults sometimes suddenly and seriously damage the system and reduce power quality and power system reliability. Usually insulator washing is a solution for this problem and it events. Since insulator washing has a high cost, it should be done by a primary and organized planning, although the contamination level is reduced naturally by heavy precipitation and fault probability is declined. One of the solutions of washing planning is studying of feeder insulators leakage current (ILC). This paper presents a new method for studying the insulators contamination (IC) level using Discrete Wavelet Transform (DWT) and Principal Component Analysis (PCA). The proposed method has been examined in a 45 days period and an index for contamination level has been extracted. Finally the algorithm of proposed method has been presented. Experimental results demonstrate that the high frequency components can be used effectively to study the contamination conditions of outdoor insulators.

## کلمات کلیدی:

Insulators Leakage Current; Discrete Wavelet Transform; Principal Component Analysis

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/208891>

