

عنوان مقاله:

Effects of Fourier Transform and Modal Theory in Electrotherapeutic Signals

محل انتشار:

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خلاصه مقاله:

High and low voltage cables are among the most frequently utilized pieces of equipment in the power system and are subject to a variety of problems for a number of different causes. In spite of their increased reliability in airways, cables, whether power or distribution cables, are typically transported underground. As a result, they are more difficult to repair and may even need to be replaced in the event of a fault; for this reason, it is crucial to locate the fault as soon as possible. As is obvious from the research's title, the Fourier transform and modal transform methods are employed in this work to determine the kind and position of faults. This allows us to assess how effective the chosen method is at identifying and finding faults in subsurface infrastructure. The Fourier transform method, followed by the Modal transform, is anticipated to have a significant advantage in this study in terms of speed and accuracy when identifying the kind and location of defects. The nature and position of the defect are identified in the meanwhile using the detection and location indicators, which, according to simulations, will operate effectively. To show that these methods are accurate, the sample model is simulated. The exact and quick performance of the suggested strategy is confirmed by the simulation results from the MATLAB and EMTP/ATP software.

کلمات کلیدی:

fault detection and localization indicators, power cables, short circuit fault, Fourier Transform, Clarke transform, Modal components

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