# Fault Detection and Classification Based on DWT and Modern Approaches for T.L Compensated with FACTS

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## Abstract

A new approach for detecting and classifying a fault for transmission line compensated with Flexible AC Transmission System (FACTS) is presented in this paper. Unified Power Flow Controller (UPFC) is one of the most advanced FACTS devices that can simultaneously and independently control both the real and reactive power flow in a transmission line. The proposed technique consists of preprocessing module based on Discrete Wavelet Transform (DWT) in combination with Artificial Neural Network (ANN) or Gaussian Process (GP) for detecting and classifying fault events.

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