Research Title: Study of behavior of Simultaneous fault on the hybrid between overhead and unground distribution system

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Abstract

This research aims to study the coefficients behavior of the current waveform from discrete wavelet transform (DWT). The fault signals had generated in hybrid transmission line. Current signal of hybrid transmission line are simulated by using alternative transient program/electromagnetic transients program (ATP/EMTP). The Case study had simulated in system voltage 115 kV of PEA. Hybrid transmission line model is single circuit single conductor in Overhead line and underground cable is same condition to overhead line. The simulations are performed with various changes of fault position, fault type and fault angle. After that, The DWT is used to decomposition fault signal of current waveform. Coefficients from the current signal are various according to fault parameter. This research is study the behavior of single fault and simultaneous fault condition. The behaviors of simultaneous fault have different from single fault due to coefficients of simultaneous fault do not change according to fault position. The behavior of the waveform is also significant because it can be apply to detect and classify Fault in further.

Keywords: Discrete Wavelet Transform (DWT), Overhead Line, Underground cable