

Surachet Dechphung 2009: The Design and Prototype Implementation of an Adaptive Mho Digital Distance Relay with KU Method. Doctor of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Associate Professor Trin Saengsuwan, Ph.D. 172 pages.

This research presents the adaptive mho distance relay to compensate during the phase to phase fault with fault resistance by KU method. Generally, mho distance relay is used widely in case of phase to phase fault with low resistance fault. But, The phase to phase fault with fault resistance (from a man, storm or animal) occasionally produce a trajectory of impedance outside the zone of the distance relay protection. Therefore, in this case, the distance relay will not give the trip command to the circuit breaker. This thesis presents an analysis of the adaptive of the mho distance relay to compensate during the phase to phase fault with fault resistance or called "KU Distance Relay". This new concept is simulated in the Matlab/Simulink and implemented using the Dspace (DS11104). The prototype adaptive distance relay has been tested in the laboratory using the relay equipment, Freja300.

Student's signature

Thesis Advisor's signature

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