Feature Extraction Method for High Impedance Ground Fault Localization in Radial Power Distribution Networks

A new approach to the localization of high impedance ground faults in compensated radial power distribution networks is presented. The total size of such networks is often very large and a major part of the monitoring of these is carried out manually. The increasing complexity of industrial processes and communication systems lead to demands for improved monitoring of power distribution networks so that the quality of power delivery can be kept at a controlled level. The ground fault localization method for each feeder in a network is based on the centralized frequency broadband measurement of three phase voltages and currents. The method consists of a feature extractor, based on a grid description of the feeder by impulse responses, and a neural network for ground fault localization. The emphasis of this paper is the feature extractor, and the detection of the time instance of a ground fault.
Projects:

**Signalbehandling anvendt til overvågning af distributionsnet**

Department of Informatics and Mathematical Modeling
Period: 01/05/1996 → …
Number of participants: 6
Phd Student:
Jensen, Kåre Jean (Intern)
Supervisor:
Munk, Steen M. (Intern)
Main Supervisor:
Sørensen, John Aasted (Intern)
Examiner:
Jørgensen, Preben (Ekstern)
Koldby, Erik (Intern)
Wilhelm, Jens E. (Intern)

**Financing sources**
Source: Internal funding (public)
Name of research programme: Erhvervsforskerordningen
Project: PhD