عنوان مقاله:
Detection and Classification of High Impedance Faults in Power Distribution Networks Using ART Neural Networks

نویسندگان:
i Nikoofekr - *Ferdowsi University of Mashhad*

M. Sarlak - *Jondi Shapour University*

S.M Shahrtash - *Center of Excellence for Power System Automation and Operation*

خلاصه مقاله:
Adaptive Resonance Theory (ART) neural networks have several interesting properties that make them useful in the area of pattern recognition. Many different types of ART-networks have been developed to improve clustering capabilities. In this paper, five types of ART neural networks(ART1, ART2, ART2-A, Fuzzy ART and Fuzzy ARTMAP) areapplied to detect and classify high impedance faults (HIF) in distribution networks. The features are extracted by applyingTT-transform to one cycle of fault current signal. These features include energy, standard deviation and median absolutedeviation. Then, they are applied to ART neural networks to detect and classify high impedance fault with broken conductor on gravel, asphalt and concrete, unbroken conductor on tree and also no fault condition. Finally, the results of these ART neural networks are compared with each other.

کلمات کلیدی:
Distribution Network Protection; High Impedance Fault; Pattern Recognition; TT-transform;ART Neural Network

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