

## عنوان مقاله:

A New DC Fault Detector Scheme for Multi-terminal HVDC Transmission lines

## محل انتشار:

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## خلاصه مقاله:

In this paper, a novel selective DC fault detector approach based on the adaptive cumulative sum method (ACUSUM) is suggested for the protection of high voltage direct current (HVDC) transmission lines. Using a communication channel, the proposed method detects DC fault occurrence as well as determining faulty line at a multi-terminal HVDC (MT-HVDC) transmission system; the whole in less than 2ms. The suggested approach works in the time domain and employs the ACUSUM method as a mathematical tool for detecting abrupt variation at the magnitude of lines current for fault detection. Simulation results confirm the selectivity of the proposed algorithm at different DC fault situations which enhances the reliability of the power system. Besides the low sampling rate, the ACUSUM calculation burden is very low and its implementation needs no special or complicated hardware. Rather than appropriate speed, adaptivity, independence from system parameters, robustness against fault resistance, fault distance and noise are significant advantages of the proposed algorithm in comparison with other methods. adaptivity, independency from system parameters, robustness against fault resistance, fault distance and noise are significant advantages of the proposed algorithm in comparison with other methods.

## کلمات کلیدی:

Power system protection, Power system relaying, fault detection, Fault Diagnosis

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