

Generalized symmetrical components for periodic non-sinusoidal Three-phase signals

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This paper deals with the generalization of the symmetrical components technique to periodic non-sinusoidal three-phase currents and voltages. The generalization of the concept of symmetrical components is discussed together with their derivation in both time and frequency domain. The main conclusion of the paper is that an orthogonal decomposition of periodic nonsinusoidal three-phase signals into positive sequence, negative sequence and zero-sequence components is not possible, but that an additional current and voltage component should be introduced, which is called the residual component.



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