An On-Line Neural Network-Based Harmonic Analyzer

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Summary

This paper introduces a simple solution, based on neural networks, to the problem of the on-line and adaptive harmonic component analysis in power systems. A single neuron is used whose synaptic weights are directly related to the signal's dc component and to the magnitudes and phases of the harmonic components present in the signal. In addition, deviation from the nominal fundamental frequency is accounted for in the same context. The simulation of a realistic test case shows a very efficient and precise estimation of the present harmonics

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