1. Effect of Harmonics on Symmetrical Components of Power Network Using Least Square Method

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Abstract: This research work estimates the effect of harmonics on symmetrical components of power network using least square method. Symmetrical component analysis of power line faults has been considered an effective tool for the design and control of power devices since their introduction. Harmonics present in power system disturb the operation of analogue protective devices. Moreover, the harmonics deteriorate the power quality, increase power loss, decrease appliances life and ultimately decrease the reliability of power system. A microprocessor based technique to estimate the value of symmetrical components under abnormal conditions in the presence of harmonics is investigated and simulated. The given technique deploys method of least squares in order to estimate the magnitude of symmetrical components. Simulation of proposed model is carried out in MATLAB/SIMULINK. © 2018 IEEE.
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