



Electrical engineering. Mykhalskyi V.M. **Means of improving the quality of electrical energy at the input and output of frequency and voltage converters with pulse-width modulation.** Kyiv, Institute of Electrodynamics of the National Academy of Sciences of Ukraine. 2013. 340 p. Circulation 300 copies. ISBN 978-966-02-6727-5.

The monograph shows the results of studies of means of improving the quality of the output voltage and the input current of semiconductor frequency and voltage converters. The system of weighted indicators of the non-sinusoidal waveform has been developed and the expediency of its use, considering the discrete nature of the formation of voltages and currents in converters with pulse-width modulation, is developed. New methods of modulation, which consist in the systemic determination of stationary states of converter switches, priority, and relative duration of their use in the construction of modulating cycles to improve the quality of electrical energy at the input and output of these converters. The strategy of forming modulating functions to control voltage source inverters and matrix converters, which ensures the improvement of indices of non-sinusoidal voltages and currents in the full range of regulation of output parameters, is proposed. The results of experimental studies and the introduction of frequency and voltage converters are presented.

For specialists who are engaged in the development and study of power semiconductor electrical energy converters, postgraduate students, and students of relevant specialties.