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AVERAGING OF PUSH-PULL DC CONVERTER MODEL

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Author

Yu.V. Rudenko

Institute of Electrodynamics National Academy of Sciences of Ukraine,
pr. Peremohy, 56, Kyiv, 03057, Ukraine,
e-mail: rudenko@ied.org.ua

Abstract

The modified method of averaging of pulse dc converter model with multi-stage piecewise-linear type of variable states functions of current is developed. Such character of variable states functions is typical for the push-pull converters with various configurations. The method is based on determination of the averaged system on all intervals of structure permanence relatively of minimum and sufficient number of independent variables – the increments of variable states

and their average values on intervals, interval durations. Analysis is conducted on the example of asymmetrical inverter with magnetically coupled chokes. The calculations of inverter characteristics are conducted by means of the developed modified method and simulation technique. Coincidence of calculation results with an error no more than 5,6 % proves the adequacy of developed modified method of averaging. References 9, figures 4, table 1.

Key words: state-space averaging method, pulse dc converter.

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