DOI: https://doi.org/10.15407/techned2020.02.003

TRANSIENTS AT CHANGING THE CONFIGURATION OF THE DISCHARGE CIRCUIT OF THE CAPACITOR OF SEMICONDUCTOR ELECTRICAL DISCHARGE INSTALLATIONS WITH AN ELECTRO-SPARK LOAD

Journal	Tekhnichna elektrodynamika
Publisher	Institute of Electrodynamics National Academy of Science of Ukraine
ISSN	1607-7970 (print), 2218-1903 (online)
Issue	No 2, 2020 (March/April)
Pages	3 - 9

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Abstract

The method of multi-parameter functions is used in order to simplify the analysis of transients during the discharge of a capacitor to the electro-spark load in semiconductor electric discharge installations at changing the discharge circuit configuration for control the duration of the pulse currents in the load. On the basis of the analysis of transients in the discharge circuit of a variable structure of such installations, exact analytical expressions for calculating electrical characteristics of the circuit are obtained. It is determined the appropriate values of the connection moment and value of the additional inductance, which must be connected during the discharge of the capacitor to reduce the duration of discharge currents and stabilize the technological process in the electro-spark load. References 11, figures 8. tables 2.

Key words: capacitor discharge, transient, electro-spark load, discharge duration, method of multi-parameter functions.

Received: 23.12.2019
Published: 26.02.2020

The work was performed at the expense of scientific work "Creation of scientific and technical bases of intellectualization of technological processes and means of measurement, control, monitoring and diagnostics in electric power and electrotechnical systems (code: INTEHEN)" within the target program of scientific researches "Fundamental Research on Energy Transformation and Utilization Processes" under the Budget Program "Supporting the Development of Priority Areas of Research" (code of programmatic classification of expenditures 6541230).

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