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ANALYSIS OF INTERDEPENDENT CHARGE-DISCHARGE PROCESSES OF CAPACITOR IN CIRCUITS WITH POSITIVE VOLTAGE FEEDBACK

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Abstract

The paper analyzes the interrelated cyclically repeated charge-discharge processes in the circuits of a reservoir capacitor in electric discharge installations with positive voltage feedback and a load whose resistance can vary randomly. Control of the amount of positive voltage feedback is characterized by coupling coefficient, which determine the relation of residual voltage of the capacitor discharge with the initial voltage of its subsequent charge. It is substantiated that the output voltage of electric discharge installations with positive feedback is limited in magnitude (due to energy losses in their circuits). In this case, it is possible to purposefully limit the excessive (as compared to permissible) increase in the capacitor charge

voltage using an adjustable coupling coefficient 0 References 15, figures 2, table 1.

Key words: capacitor, charge, discharge, transient process, voltage feedback.

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