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COMPARISON OF THE SMOOTHING EFFICIENCY OF SIGNALS OF VOLTAGE ON THE PLASMA-EROSIVE LOAD AND ITS CURRENT BY MULTI-ITERATIVE FILTRATION METHODS

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Abstract

Characterized signals of voltage on the multichannel plasma-erosive load and its current, as a result of capacitor discharge on it in general. The influence of parameters of elements of the discharge circuit and the initial conditions for them in the transition process in plasma-erosive load and a factor of stochastic amplitude modulation of the discharge current and voltage at the load are considered. A critical analysis of the signal filtering methods is given. Described filtering of signals voltage on plasma-erosive load and its current by method of their partially recovery by their incomplete mode decomposition. The algorithm of new multi-iterative method of moving average with increasing width of the filtering window of non-stationary non-periodic

signals is described. The comparative analysis of efficiency of filtration of signals of voltage on plasma-erosive load and its current by a new method and a method of their partially recovery by their incomplete mode decomposition is given. References 22, figures 5, tables 2.

Key words: plasma-erosive load, discharge current, non-stationary non-periodic signals, methods of signal filtering.

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