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SOURCE OF THE STABILIZED DISCHARGE CURRENT IN CARBON-CONTAINING GASES WITH FREQUENCY-PARAMETRIC REGULATION

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Abstract

The combined method of frequency-parametric regulation of the stabilized current of the power source is developed on the basis of the resonant inverter for real-time providing of the optimal value of the discharge current during the change of the length of the inter-electrode gap.

According to this method, to provide a given output current stabilization factor, an automatic transition from the continuous current control is performed by changing the frequency of the inverter to the discrete regulation of the natural frequency of the resonant circle due to the switching of the inductors. The usage of this method ensures current stabilization up to 99% in the case of the active linear load and 95% in the case of the electro-discharge load. References 12, figures 3.

Key words: power supply, stabilized current, frequency-parametric regulation, resonant inverter, optimal discharge current.

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