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PROGRESS OF SEMICONDUCTOR DISCHARGE-PULSE SYSTEMS FOR PROCESSING GRANULAR CONDUCTIVE MEDIA

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Abstract

An analysis of the evolution of semiconductor discharge-pulse systems for processing granular conductive media is given. The main types of thyristor generators of discharge pulses, the features of their operation, advantages and disadvantages are described. The methods of increasing the stability of parameters and reducing the duration of the discharge pulses of thyristor generators are analyzed. The ways of increasing the specific fraction of nanodispersed and submicron erosion particles obtained using thyristor discharge-pulse systems are shown. The development of transistor discharge pulse generators is described and their advantages and disadvantages are given. Algorithms for controlling transistor pulse generators, which make it possible to reduce their instability and a circuit of such generator are given. The ways of increasing the technical and economic indicators of transistor pulse generators are shown. References 36, figures 2.

Key words: discharge-pulse systems, thyristor generators, transistor generators, spark and plasma erosion treatment, granular conductive media

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