

## Managing the system of circulation of electrolyte in the plasma generator with liquid electrodes

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### Abstract

© 2016 IEEE. Plasma generators with liquid electrodes for high-power flows of steam plasma are promising. Their industrial application sets the task for mode control automation. The possibility of automation of the system enabling electrolyte circulation in the generator plasma with liquid electrodes is discussed in this paper. Variation of the frequency characteristic of the electric pump in the circulation system of the electrolyte was taken as a basis. It is known that the speed control of the electric pump ensures the baseline minimum flow rate at optimum efficiency of the drive. The scheme, in which the drive speed is compared with the current load of the plasma generator with the programmable controller and frequency converter, was implemented. The automatic control system of electrolyte circulation was tested within the 10-30 kW power range.

<http://dx.doi.org/10.1109/ICIEAM.2016.7910905>

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### Keywords

frequency converter, induction motor, plasma generator, programmable controller

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