

The influence of the method of cooling liquid electrolyte cathode on the energy balance in the gas discharge

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Abstract

Experimentally investigated the energy balance in a gas discharge between a flowing electrolyte cathode and a metal anode at an power of tens of kilowatts. The discharge was burning in the air in the electrode gap with a height of 10 cm. The electrolyte was a solution of salt in distilled water. The concentration of the solution by weight was 5.5 g/l. The regularities of the influence of electrolyte mass flow through the flowing cathode on the energy characteristics of the discharge were studied. The modes of the discharge, whereby the energy balance of the portion of heat losses for heating of the electrolyte reaches a minimum were identified.

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