

**Neskoromny S.V., Strizhakov E.L.**

**Superposed Processes of Processing the Materials by Pulsed Electrical Discharge**

**Abstract:** The results of processing the materials by pulsed electrical discharge, which is carried out under conditions of the pulsed current flow of up to 400 kA, duration of up to 400  $\mu$ s, static up to 300 N/mm<sup>2</sup> and dynamic up to 10<sup>6</sup>–10<sup>7</sup> N/mm<sup>2</sup> pressures imposed on the processed materials, have been presented. These process parameters have been implemented under conditions of the super-hard heat and power impact modes, electrical discharge machining, and they are typical for the electric pulse press moulding, i.e. sintering, the composite refractory powder materials and for the high-voltage capacitor-discharge welding of dissimilar alloys with inductor systems, intermediate materials included.

Pulsed electrical discharge processing is carried out by means of electrode and (or) inductor systems connected to a pulse current generator. Depending on the grade of the processed material and its thickness, the necessary power and frequency parameters of pulsed current generators are selected.