Manufacturing of high-voltage pulse capacitors for electrophysical facilities

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The results of resource tests of high-voltage pulse capacitors (VIK) with an operating voltage of 120 kV and a capacity of 0.04 μF are presented. VIK is designed and manufactured on the basis of domestic technological and testing equipment as part of the implementation of the import substitution program. Aluminum foil of Russian production was used as capacitor plates. A combined paper-film insulation impregnated with vegetable oil was chosen as a dielectric. In the manufacture of capacitors, a scheme of non-inductive winding of sections was used, which made it possible to provide the required discharge characteristics for LTD (linear transformer driver) cavities of electrophysical installations. Thanks to the optimization of design parameters and winding technology, in particular the bending of the edge of the aluminum foil, it was possible to provide not only improved technical characteristics compared to foreign analogues of the VIK currently used, but also to increase the service life of the developed pulse capacitors.