Electrospark purification of waste waters from heavy metals

S.V. Petrichenko¹, A.M. Yushchishina¹, <u>O.P. Mitryasova²</u>

¹Institute of Impulse Processes and Technologies of NAS of Ukraine, Mykolaiv,

Ukraine, e-mail: *yush-anna1710@ukr.net*²Ecology Department, Petro Mohyla Black Sea National University, Mykolaiv,

Ukraine, e-mail: *lesya.solis28@gmail.com*

Studies on the purification of multicomponent galvanic effluent by the electrospark method using metal loading (Fe, Al) and low-voltage (up to 1000 V) equipment have been carried out. It is shown that the degree of purification depends on the specific energy of processing, the height of metal loading in the reactor, and practically does not depend on the energy of the pulse and the rate of its input into the liquid being processed (Fig.). The concentrations of heavy metals such as Ni(II), Zn(II), Cr(VI), Cr(III), Cu(II), Fe(II, III) in the treated water are significantly lower than their MPC values regulated in developed countries.

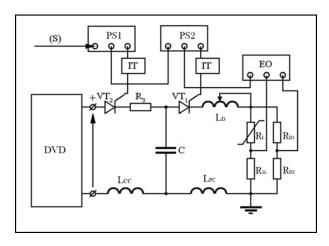


Fig. The electrical circuit of the experimental low-voltage source of discharge currents

References

[1] S. Petrichenko et al. Электронная обработка материалов (2016) 2 (52): 8–13 (in Russ.).