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HIGH VOLTAGE PLANT WITH 3 MW PULSE POWER FOR DISINFECTION FLOW OF WATER BY NANOSECOND DISCHARGES IN GAS BUBBLES

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Abstract

The processes in the discharge circuit of a powerful high-voltage pulse installation with three multi-gap spark gaps operating in parallel are experimentally investigated. Oscillograms of voltage and current pulses at the load in the form of three reactors are obtained with running water. The discharge processes are compared when using in the discharge circuit three multi-gap dischargers and three reactors connected in parallel, on the one hand, and one such discharger and one reactor on the other. The regimes of synchronous discharges in gas bubbles were obtained in three reactors, which ensured the complete inactivation of the E.coli in water with an initial concentration of 10^6 CFU/cm³ (CFU is a colony-forming unit). References 5, figures 4, table 1.

Key words: nanosecond discharge in a gas bubble, a high-voltage pulse plant, pulse power, a spark discharger (gap), disinfection of water in a stream, a reactor - a discharge unit.

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