

ABSTRACT

The master's graduate work consists of 158 pages, 31 figures, 39 tables, 3 appendices, 52 sources.

AEROTENC, COMPUTER MODELING, SOFTWARE, STARTUP - ROJECT, MATHEMATICAL MODEL.

The object of the research is computer-integrated technologies for wastewater treatment systems.

The purpose of the work is the development of a system for automatic regulation of the oxygen tanks by oxygen regime during wastewater treatment.

The subject of the research is the control of the oxygen regime of aeration tanks during wastewater treatment.

The features of existing wastewater treatment systems and treatment facilities using biochemical processes are considered.

The result of this work is the proposed mathematical model and calculation module for calculating the aeration tank-mixer with an attached biocenosis.

Computer simulation of the biological wastewater treatment process was carried out and a startup project was developed.

A system has been developed for automatically controlling the oxygen conditions of aeration tanks during wastewater treatment.

Relevance of the work. Wastewater treatment remains an acute problem of our time. To improve the quality of wastewater and reduce the cost of treatment, automated control systems are used.

Approbation of the results of the dissertation. The main results of the work were reported at the Seventh International Scientific and Practical Conference "Computer Modeling in Chemistry and Technology and Sustainable Development Systems" (Kyiv, 2019), VIII International and Scientific-Practical Internet Conference "Modern Science Movement" (Dnipro, 2019).

Publications Based on the materials of the master's thesis, 2 abstracts were published in collections of conference materials.