

ABSTRACT

Master's graduate work consist of 147 pages, 20 figures, 24 tables, 6 appendices, 49 sources.

OZONE, OZONIZATION, OZONATOR, COMPUTER MODELING, REACTOR, KINETICS, SOFTWARE, STARTUP, MATHEMATICAL MODEL

The object of the research is computer simulation of the kinetics of the ozone decomposition process in the aquatic environment.

The purpose of the work is to develop software for modeling of water ozonation process.

The process of water ozonation has been developed, a model of ozone decay in the aquatic environment has been developed.

The result of this work is a software product that can be used to calculate the kinetics of the process.

A computer simulation of the water ozonation process was carried out and a startup was developed.

Relevance of the work. Water purification remains an acute problem, about 90% of all water resources used require purification. During water purification with ozone, chlorinated hydrocarbons that are formed during the chlorination process are not formed. So, as ozone is a strong oxidizing agent that destroys viruses and bacteria.

Communication work with scientific programs, plans, themes. The master's thesis was carried out according to the tasks of the Initiative research work of the department of the KXTP "Intellectual system for the development of eco-safe processes for the neutralization of harmful emissions" (state registration number 0117U007338, 2017-2021).

Approbation of the results of the thesis. The main results of the work were reported at the VII International Conference of Students, Postgraduates and Young Scientists in Chemistry and Chemical Technology (Kiev, 2018), VI International Scientific and Practical Conference "Computer modeling in chemistry and technologies" (Kiev, 2018), the II All-Ukrainian Student Scientific and Technical Conference practical conference with international participation (Kiev, 2018).

Publications. According to the materials of the master's thesis 1 article and 2 theses of reports are published in collections of conference materials.