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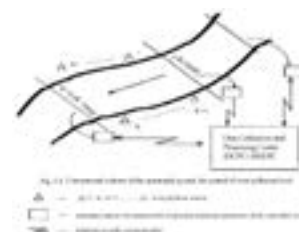
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Information technologies for control and management of environmental water quality

For solving the problems of study, analysis and quality management of the environment there is necessary operatively to treat great amount of measuring information on physical, chemical and biological parameters characteristic for them. To do it in a proper way, in conformity to the modern requirements, is possible only by wide use of modern mathematical methods and computers. For this purpose it is necessary to develop automated systems and universal program packages with developed mathematical methods consisting of self-learning algorithms requiring whenever it is possible minimum a prior information and having capability of adaptation to the most unexpected changes of the character of the investigated objects. Among the most topical problems of monitoring of a natural water environment, it is necessary to single out the following issues: simulation of pollutants transferring in water objects; methods of making decisions about condition of controlled objects and processes taking place in them; identification of sources of emergency pollution to take measures for their elimination. With the purpose of overcoming of the mentioned problems, the consideration and the demonstration of the following program packages are offered in the work: automated water quality control system, mathematical models of pollutants transport in rivers and identification of river water excessive pollution sources. These packages are developed under guidance of the present work and are introduced in a real water objects such as rivers and sewage of factories.

Recent Publications

1. Kachiashvili K J and Melikdzhanian D I (2016) Software for pollutants transport in rivers and for identification of excessive pollution sources. *MOJ Ecology & Environmental Science*, 1(1):1-8.
2. Kachiashvili K J and Melikdzhanian D I (2015) Software for statistical hypotheses testing. *International Journal of Modern Sciences and Engineering Technology (IJMSET)*, 2(4):33-52.
3. Kachiashvili K J and Melikdzhanian D I (2009) Software realization problems of mathematical models of pollutants transport in rivers. *International Journal Advances in Engineering Software*, 40:1063-1073.
4. Kachiashvili K J, Gordeziani D G, Lazarov R G and Melikdzhanian D I (2007) Modeling and simulation of pollutants transport in rivers. *International Journal of Applied Mathematical Modelling (AMM)*, 31:1371-1396.
5. Kachiashvili K J and Melikdzhanian D I (2006) Identification of river water excessive pollution sources. *International Journal of Information Technology & Decision Making*, 5(2):397-417.



Conventional scheme of the automated system for control of river pollution level.

Biography

Kartlos J Kachiashvili has his expertise in development of automated monitoring and control systems of environmental water pollution level, metrology of the suitable measurement devices, mathematical modeling and simulation of pollutants transport in water objects and measurement devices and processes, development of new computer technologies, system analysis and analysis of environmental, agricultural and medical data. He developed his activities in scientific production associations, research institutes and universities of different countries. Developed by him systems, program packages, models, methodologies were practically realized in real systems of different countries of former USSR. His research results are published in many scientific articles and monographs published in many well-known, international journals and publishing houses.

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