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## MATHEMATICAL MODELS FOR DOMESTIC BIOLOGICAL WASTEWATER TREATMENT PROCESS

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### Abstract

The paper analyses conceptually the activated sludge models used in the modeling of biological processes which occur under domestic wastewater treatment. Modeling and simulation can significantly contribute to the understanding and design of activated sludge wastewater treatment plants (WWTPs). A mathematical model of a WWTP is able to predict how the WWTP will react under various operating conditions. A wastewater treatment plant model describes the biochemical and physical processes involved in the technical purification of wastewater. Through the biochemical processes the organic matter and nutrient content of the wastewater is eventually converted into carbon-dioxide, nitrogen and a particulate fraction (cell material).

*Key words:* activated sludge, biochemical process, biomass characterization, mathematical model, wastewater treatment

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