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MODELLING WASTEWATER TREATMENT PROCESS IN A SMALL PLANT USING A SEQUENCING BATCH REACTOR (SBR)

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Abstract

The industrial development, the demographic growth and the limitation of the natural regions have determined a continuous degradation of the water quality due to high concentrations and complexity of pollutants from the wastewater. The centralized and decentralized treatment systems apply treatment procedures and techniques which can be complementary in solving the environmental pollution problems due to wastewater. In the present paper a three-dimensional mathematical model was elaborated based on the experimental data obtained in a wastewater treatment plant with sequential operation, correlating the treatment degree with independent variables such as the temperature of the wastewater and the treatment duration, respectively. The mathematical model was developed and verified by using a specialized software, Table Curve 3D .The model was based on experimental data obtained by using a low capacity treatment plant, with a sequential operation, in a Sequencing Batch Reactor (SBR) type and the real domestic wastewater.

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