

Object-Oriented Modeling Simulation and Control of Activated Sludge Process

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Abstract : Object-oriented modeling is spreading in current simulation of wastewater treatments plants through the use of the individual components of the process and its relations to define the underlying dynamic equations. In this paper, we describe the use of the free-software OpenModelica simulation environment for the object-oriented modeling of an activated sludge process under feedback control. The performance of the controlled system was analyzed both under normal conditions and in the presence of disturbances. The object-oriented described approach represents a valuable tool in teaching provides a practical insight in wastewater process control field.

Keywords : object-oriented programming, activated sludge process, OpenModelica, feedback control

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