Ipclass: an interactive program for calibrating activated sludge systems

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Ipclass – an interactive program for calibrating activated sludge systems – is formulated and demonstrated. The model involves a heuristic screening algorithm for exploring the system’s equations structure, analytical computations of the sensitivities of the variables to the model coefficients, analytical computations of the gradients of the objective functions selected for the calibration process, and a gradient interactive steepest descent minimization scheme.

The methodology was implemented in an end-user PC program: Ipclass uses the TK Solver and Matlab as computational engines, and Visual Basic as the shell. Applications to the activated sludge system models are presented.