

An Improvement of a Dynamic Model of the Secondary Sedimentation Tank and Field Validation

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Abstract : In this paper a comparison is made between two models, with and without dispersion term, and focused on the characterization of the movement of the sludge blanket in the secondary sedimentation tank using the solid flux theory and the velocity settling. This allowed us to develop a one-dimensional model, with and without dispersion based on a thorough experimental study carried out in situ and the application of online data which are the mass load flow, transfer concentration, and influent characteristic. On the other hand, in the proposed model, the new settling velocity law (double-exponential function) used is based on the Vesilind function.

Keywords : wastewater, activated sludge, sedimentation, settling velocity, settling models

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