A NEW MODEL FOR SOLIDS CONCENTRATION PROFILES IN CIRCULAR SETTLING TANK

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Abstract

This paper propose a new mathematical model for estimating solids concentration profiles in radial settling tank, using dispersion equations. New formulae are introduced for phase velocities in settling tank considering hydrodynamic characteristics of the phases movement. Also, a second order source of solids concentration is taking into account. Results obtained after numerically integration were validated experimentally showing that this model can be applied to determine the solids concentration profiles.

Keywords: wastewater treatment, settling tank, mathematical model, concentration profiles

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