

عنوان مقاله:

3D Numerical Simulation of the Flow Pattern in Pre Settled Pools Using Fluent Software

محل انتشار:

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خلاصه مقاله:

Pre settled pools were most important elements in water purification process. Because of enormous cost of making these pools which have been allocated about 30% of the total cost to water purification process Modeling and optimal performance of Pre settled pools is very important. The present study investigates numerical simulation of flow in a rectangular basin. Continuity and Navier-Stokes equations are solved using finite volume method. Flow simulation was performed in 3D using the standard k-ε turbulence model. Flow velocity profiles were compared with the experimental results in different sections of Presedimentation basin. The comparison shows that there is a good agreement between numerical and experimental study. Then, the results of the velocity profiles in different sections of the basin and flow separation zones were compared with the experimental results. It showed that there is a good agreement between the numerical and experimental results. It also indicates excellent ability of this numerical model .in predicting velocity distribution profiles and flow separation zones in pre-sedimentation basins

کلمات کلیدی:

Pre Settled Pools, Flow Pattern, Fluent Software, Standard K-ε Turbulence Model

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