عنوان مقاله:

Comparison of numerical, experimental and empirical results for flows over simple vertical drop

محل انتشار:

نهمین سمینار بین المللی مهندسی رودخانه (سال: 1391)

تعداد صفحات اصل مقاله: 9

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خلاصه مقاله:

In this paper, the hydraulic characteristics of simple vertical drop have been studied numerically with used of Fluent software to solve the finite volume method. The volume of fluid (volume of fluid) was used for modeling the free surface. Flow characteristics such as downstream depth, pool depth and energy loss, frees surface profile, and velocity characteristics of falling jet were calculated and compared with the experimental and empirical values. Different turbulent models and grids have been studied. The numerical results with a 57512-node grid, 1.5 meter downstream channel length, standard turbulence model and standard wall function showed the best agreement and The numerical free-surface profiles followed the theoretical equations very well The numerically calculated velocity profiles mimicked the experimental results all over the falling jet regions.

کلمات کلیدی:

Drop Structure, flow characteristics, free-surface, subcritical flow, energy loss

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