

عنوان مقاله:

3D Simulation of Turbulent Dividing Flow: A Model Comparison

محل انتشار:

اولین کنفرانس بین المللی و سومین کنفرانس ملی سد و نیروگاههای برق آبی (سال: 1390)

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نویسندگان:

AKBAR SAFARZADEH - Assistant Professor of Civil-Hydraulic Engineering Faculty of Engineering, Mohaghegh
Ardabili University

ZOLFAGHAR SAFARZADEH - Faculty Member Islamic Azad University, Ardabil Branch

S. A. SALEHI NEYSHABOURI - Professor of Hydraulic structures Water Engineering Research Institute, Tarbiat
Modares University

خلاصه مقاله:

The flow at a channel bifurcation is turbulent, highly three-dimensional (3D) and has many complex features. This necessitates a deeper insight into the flow patterns, sediment transport and local scouring phenomenon near the solid boundaries. This paper reports a 3D numerical investigation of these features in an open channel. Simulations have been done on rectangular channel geometry, with smooth bed and sidewalls. The standard k-e, k-w model of Wilcox, and RSM turbulence models are compared using the commercial code FLUENT. The simulation results have been compared with available experimental data. It was found that all of the turbulence models tested here accurately predicted velocity profiles in the main channel but in the branch channel, the RSM model performs best with the k-w model performing better the k-e model

کلمات کلیدی:

Dividing Flow, CFD, Secondary Flow, Turbulence Model, Sediment Transport

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