

## عنوان مقاله:

Computaional Evaluation of Hydrodynamic parameters of a Semi-elliptical side weir

## محل انتشار:

چهارمین کنفرانس بین المللی پژوهش های نوین در علوم مهندسی و تکنولوژی (سال: 1394)

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## خلاصه مقاله:

To protect the main channel of unprecedented phenomena such as overflow, as well as, controlling the flow rate of passing water; Side weirs are used. However different types of side weir has been proposed, only rectangular side weirs investigated in many theoretical or empirical studies to determine flow characteristics of the weir since the geometry of rectangular side weirs is simple, but, there is not any theoretical study for advanced geometries such as semi-elliptical weirs. In this study numerical simulation is employed and shown numerical methods have superior accuracy and simplicity over other theoretical or experimental methods. To this end, four semi-elliptical weirs with different geometries are simulated by ANSYS CFX software. To check the validity of the results; numerically derived results are compared with available experimental data. Comparison indicated that numerically derived results not only follows the trend of experimental results, but also have negligible error. Moreover, advanced phenomena such as .secondary flow which cannot be captured by theoretical equations are resembled in numerical simulations

## کلمات کلیدی:

Side weir, Semi-elliptical weir, Numerical simulation, free surface flow, Water surface profile

## لینک ثابت مقاله در پایگاه سیویلیکا:

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