**عنوان مقاله:**

Numerical Study of Hydraulic Flow and Determining the Equations Governing Separation Zones in Intakes

**محل انتشار:**

تعداد صفحات اصل مقاله: 7

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**خلاصه مقاله:**

Intakes are used in rives and channels to control and deviate the flow. The deviation in the intake leads to the formation of a complex flow in the branch channel mouth therefore being familiar with the hydraulic flow in intakes is of great importance. The experimental model was simulated using ANSYS-CFX software in this study. Numerical modeling was carried out in a three- dimensional manner based on k-ω turbulence model. The verification results indicate that the results of the numerical model correspond fairly well to the results of the experimental model with a relative error value (MAPE) of ۵%. After verifying the CFX model in this research the effects of different parameters such as discharge ratio, different width ratios, Froude number of the incoming flow, and intake angle were studies on the size of the separation come. According to the obtained numerical results, proper formulas have been developed for anticipating the effects of these parameters on separation zone.

**کلمات کلیدی:**

intake, separation zone, ANSYS-CFX model, k-ω turbulence model

**لینک ثابت مقاله در پایگاه سیویلیکا:**

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