

Open-channel hydraulics

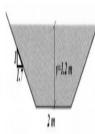
McGraw-Hill - Open Channel Hydraulics, Third Edition by Terry W. Sturm, Hardcover

Problem 7: Open Channel flow (past exam)

A trapezoidal channel of 2m wide at the base is made of brickwork ($n=0.015$) with a longitudinal slope of $S=0.002\text{m/m}$. If the flow $Q=5.23 \text{ m}^3/\text{s}$.

Calculate:

- 1) (pts) the side slope of channel and its hydraulic radius as a function of the side slope, m .
- 2) (pts) the normal depth,
- 3) (pts) the critical depth and
- 4) (pts) the regime of the flow.
- 5) (2pts) Explain your result using the energy diagram for open channel.



Description: -

- Hydraulics.

Channels (Hydraulic engineering)Open-channel hydraulics

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v. 2

Practical machinery management for process plants ;

McGraw-Hill classic textbook reissue seriesOpen-channel hydraulics

Notes: Includes bibliographical references and indexes.

This edition was published in 1988



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Tags: #Open #Channel #Hydraulics

Open

Exercises are spread throughout, concluding with major assignments which combine the knowledge gained from the book.

Open Channel Flow

Based on the variable nature of n with y in the GVF profiles, the predicted normal depths y_n associated with the variable n values would also vary. Consequently, based on the good correlation between the uniform flow and GVF n data presented in Figure 6-8, yaverage, the average value of y in the measured GVF profile, was selected as the representative flow depth parameter in this analysis for calculating R_h , Re , V , etc. In turbulent flows, the head loss can be estimated from the Darcy equation 4.

Open Channel

Uniform Flow, Varied Flow, Rapidly Varied Flow, and Unsteady Flow. An advantage of the tracer-dilution method is that no measurements of the flow channel geometry are required.

Chapter 2 open channel hydraulics

Equation 7-9 shows that using the power law equation to determine a variable hydraulic roughness coefficient is basically the equivalent of changing the x^2 value of Equation 7-6 and applying a constant roughness coefficient. For various reasons mainly historical reasons , empirical resistance coefficients e .

[PDF] Hydraulics Of Open Channel Flow

The normal procedure is to build a weir or flume of constant width across the flow and measure the velocity of flow and the height of liquid immediately before the weir or flume with an ultrasonic or radar level sensor, as shown in Figure 16. If the head over sill is 50mm calculate the coefficient of discharge of notch. He is licensed as both a Professional Engineer and Professional Hydrologist.

Open channel hydraulics (2010 edition)

For a sudden transition from super- to subcritical flows, the continuity and momentum equations must be applied. Zhang Heng was the first to employ hydraulics to provide motive power in rotating an for.

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