

[1]魏炳乾,荀洪运,孙小军,等.基于时窗滑动平均法的水沙代表系列研究[J].自然灾害学报,2010,06:147-152.

WEI Bing-qian,XUN Hong-yun,SUN Xiao-jun,et al.Selection of representative series of water and sediments data based on method of moving average of time-window[J].,2010,06:147-152.

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基于时窗滑动平均法的水沙代表系列研究(PDF)

《自然灾害学报》[ISSN:/CN:23-1324/X] 期数: 2010年06期 页码: 147-152 栏目: 出版日期: 2010-08-09

Title: Selection of representative series of water and sediments data based on method of moving average of time-window

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关键词: 水沙; 时窗; 滑动平均法; 河工模型试验

Keywords: water and sediment; time-window; moving average method; river model test

分类号: P64

DOI: -

文献标识码: -

摘要: 确定良好的水文资料代表系列,对有效模拟河床演变有着重要的意义。通过采用时窗滑动平均法,选取不同长度的时窗分别对长系列水沙资料进行了滑动平均计算,确定出最优时窗的代表系列作为河工模型试验的水沙施放过程。最后,将其应用于灞河河工模型试验中,并与西北水利科学研究所2001年所做的正态河工模型试验之平衡河床成果相比较。结果表明:灞河B#坝库区在运行6年后,其河床达到冲淤平衡,与正态河工模型试验的平衡河床结果相符合。说明本河工模型试验所选用的水沙代表系列是正确的,所采用的时窗滑动平均法具有良好的适用性。

Abstract: It is important to determine the better representative series of

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hydrological data for efficiently simulating the riverbed evolutionary regularity. By using the moving average method and selecting the time-window with different length, the moving average calculation was carried out for a long series of water and sediment data. A representative series with optimum time-window was determined as a process to launch water and sediment in the river model test. Finally, it was applied to the model experiment on Bahe River and the results were compared with that of balance riverbed from the normal river model test made by Northwest Water Conservancy Science Research Institute in 2001. The result shows that after 6 years of operation the riverbed in reservoir of No. B Dam is in balance between stream and sedimentation and is agreed with that of the prototype. It indicates furthermore that the representative series of water and sediment used in this river model test is correct, and the moving average method with time-window has a better applicability.