

<<水工物理模型与原型观测技术进展>>

图书基本信息

书名：<<水工物理模型与原型观测技术进展>>

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## 内容概要

This book was the Proceedings of the International Symposium on Hydraulic Physical Modeling and Field Investigation, which was opened on September 13 -15, 2010, in Nan- jing. There were 4 topics included in the research field: New Technology of Physical Modeling of River, Coastal and Environmental Flows, Advancement in Field Investigation for Hydro and Environmental Engineering, Development of Instruments and Facilities for Hydraulic and Eco- hydraulic Measurement, Hybrid Model Approach and Combination of Physical Approaches with Numerical Simulation.

This book covered 114 papers, which were the newest research results in the world. It can be referenced by students, engineers and researchers.

书籍目录

Topic 1 New Technology of Physical Modeling of River, Coastal and Environmental Flows  
Experimental Study of Flood Discharge through a High Arch Dam  
Design of Data Transmission Networks Based on CAN Bus for Physical Model Control System  
Role of Physical Models in River Development and Protection  
Design and Application of the Automatic Instrumentation for Dispatching Used in Hydraulic  
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A New Arithmetic of Ship Motion by Draw-wire Length  
Calibration Test of Doppler Ultrasonic Flow-meter  
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Experimental Study and Numerical Verification of 3D Thermal Stratified Wake Flow

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Overbank Flow Estimation using ANFIS and Genetic Programming

Transmission Coefficient of Wave Permeable Breakwater

Mechanism of Sediment Transport in Uni-directional, Bi-Directional Flows

Coupling Physical and Numerical Models: Example of the Taoussa Project ( Mali )

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Topic 3 Development of instruments and facilities for hydraulic and eco-hydraulic measurement

Topic 4 Hybrid model approach and combinatin of physical approaches with numerical simulation

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章节摘录

版权页：插图：Abstract: Ultrasonic spectroscopy is a rapid, on-line, non-invasive measurement technique for suspension characterization of different particle sizes and wide-ranging concentrations. This study presents the design and fabrication of two experimental systems to simultaneously measure the sediment concentration of ultrasound wave propagation in liquid. Each monitoring system includes design and manufacture for an ultrasonic transducer, an electric transmitting and receiving circuit, and data log. This work also integrates these components into a portable type system operating underwater at 100 meters depth, and a fixed chamber type able to draw water from various depths. Measurement results show that ultrasonic attenuation variations are driven by concentration. The chamber type and portable type ultrasonic measurement system took successful measurements in the Shihmen and Tsengwen reservoirs during several typhoons. Key words: sediment concentration; ultrasonic; attenuation

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