NUMERICAL SIMULATION OF FLOW AND SEDIMENT FOR VARIATION REACH OF BACKWATER IN WANAN RESERVOIR

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Abstract
    A two dimensional mobile-bed flow and sediment movement mathematical model for the variation reach of backwater in the Wanan reservoirs was established. The governing equations are transformed by boundary-fitted orthogonal grids and solved by SIMPLEC mode , which allows consideration of complex boundaries. The results of the model simulation for flow are compared with field data. The simulation results show that the mode of suspend load transport adopted in this model could reasonably describe the exchange mechanism between suspend load and bed material. Base on the model, characteristics of flow movement and problems on the deposition in the backwater region due to the operation of the reservoir were analyzed.

Keywords: Mathematical model; Variation reach of backwater; Deposition; Sediment transport

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