

HEC-RAS 模式在野溪水理演算之應用與探討

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摘要 近年來各項工程水理相關設計除安全考量外，亦應儘量符合自然生態工法之需求。採用較合理且簡便的水理演算模式，可有效地進行河道斷面及工程佈置之設計規劃。美國工兵團之 HEC-RAS 模式，考慮實際河道斷面幾何特性及糙度，且可考量水工結構物（如橋墩、橋台、涵洞等）造成之效應，具備較完善之水理計算能力。本研究採用 HEC-RAS 模式，針對台北縣雙溪鄉丁子蘭坑溪之第一至三期整治河段進行水理計算；同時進行水工模型試驗，試驗成果與水理演算模式模擬結果相互比較分析，並獲得良好之比較成果；由成果可說明 HEC-RAS 模式可作為野溪水理計算之良好工具。

關鍵詞：HEC-RAS 模式、水工結構物、水工模型。

Application and Verification of the HEC-RAS Model in a Stream

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ABSTRACT Except for the safety consideration, hydraulic design should satisfy the demands of the ecological point of the view. A robust and user-friendly hydraulic computational model can effectively speed up hydraulic engineering design and layout. The HEC-RAS model was developed by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers. This software allows the user to perform one-dimensional hydraulic computation based on various geometric characteristics, roughness of river sections and effects of hydraulic structures in a river. The Tin-Chi-Lan-Kan Creek located in Taipei County is selected as a study site. An experimental study is also conducted by constructing the physical model for this site. The measured water levels are compared with the calculated results by the HEC-RAS model. The applications of HEC-RAS model in the Tin-Chi-Lan-Kan Creek

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