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Abstract

Measuring the bank profile shape when bank sediment particles are undergoing incipient motion (threshold) is notable for researchers. In the present study, an advanced laser gauge sensor instrument is utilized to measure the coordinates of points located in a stable channel bank cross section. A robust Particle Swarm Optimization (PSO) algorithm combined with a Genetic Algorithm (GA) is developed in an Adaptive Neuro-Fuzzy Inference System (ANFIS) model to predict and compare the bank profile with measured data. The results show that the proposed ANFIS-PSO/GA optimization method had a determination coefficient (R^2) and Mean Absolute Relative Error (MARE) of 0.9951 and 0.1575, respectively, and was

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