



Islamic Azad University-Ahar Branch

Geographic Space

An Approved Scientific, Research-based  
Quarterly

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## **Evaluation of Artificial intelligent Technique in Prediction of Sediment transport rate in Ajichai River**

Date received: 10 May 2012

Date accepted: 16 August 2013

### **Abstract**

Due to complexity of erosion and sediment transport phenomena and non accuracy of different sediment transport formulas and sediment rating curves in predicting of transport rate, application of intelligent meta model systems based on data mining are mentioned for simulation of sediment transport in rivers. The main aim of this research is predicting and simulation of total load transport using data mining approaches. For this purpose, different models consist of dimensional, non dimensional and logarithmic hydraulic parameters are evaluated using FFNN, RBF,

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GRNN and ANFIS data mining approaches. Results show that RBF and GRNN have better capability and workability comparing other Meta models.

**Keywords:** Sediment load, Artificial intelligent technique, Radial basis function, Ajichai river, Neural network.