عنوان مقاله:
Prediction of Reservoir Volume by Using Chaos Theory and Genetic Programming

محل انتشار:
اولین کنفرانس بین المللی و سومین کنفرانس ملی سد و نیروگاه‌های برق آبی (سال:1390)

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خلاصه مقاله:
Nowadays, prediction of reservoir volume is very important in water resources management and their permanent development. Along with scientific advances in recent years, various intelligent methods and regression and mathematical methods have been presented to estimate the flow discharge and volume. In this paper, different methods are applied to predict reservoirs volume of Alavian dam, located in north-west of Iran. Two different methods, Chaos analysis and genetic programming, are used to forecast reservoir volume based on climate information and daily reservoir inflow and outflow over 41 years. The performances of models are analyzed and result showed that volume have had chaotic behavior and model is was found appropriate for predicting Alavian daily reservoir volume. Application of genetic programming models in estimating the load of reservoirs is also studied in this paper. Although the data that has been used has chaotic behavior, a mathematical model of genetic programming with Inflow, outflow and evaporation as model inputs, there for chaos theory is effectively suitable model to estimate the volume of the reservoir volume.

کلمات کلیدی:
Chaos, Genetic programming, Prediction, Reservoir volume, Alavian dam

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نمایید.