

Using Grammatical Evolution to Predicting Streamflow during Drought

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Abstract

This paper explores the feasibility of applying a grammatical evolution (GE) system and combines it with the genetic algorithm (GA) to establish the inflow predicting model of De-Chi Reservoir in central Taiwan. First, a GE is an evolutionary automatic programming type system, which can discover relationships among observed data and express them mathematically. Further, a GA was used with this GE to optimize the appropriate function type automatically. We apply this GE model to fit to the inflow data series on dry year. Experimental results are presented to demonstrate the applicability of GE for forecasting long-term time series, and the results are found to be better compared with the traditional multiregressive (MR) method.

Keyword :