



## **Research on Parameter Uncertainty Analysis of Xin'anjiang Model Based on GLUE Method**

Bin He, Jiaojiao Feng, GuoLi Wang, and Guohua Liang

Institute of Water Resources and Flood Control, Dalian University of Technology, Dalian, China (hebin@dlut.edu.cn)

The parameter optimization is a very complicated task because of many parameters and their mutual constraints of the hydrological model of the basin. In order to solve the problem of large initial optimization of hydrological model parameters, long optimization time, lack of precision and prone to local optimization in optimization process, a multi-objective GLUE method is used to analyze the uncertainty of the sensitive parameters of Xin ' Anjiang model and determine the posterior distribution range of the sensitive parameters. On the basis of this, the parameters were optimized in the prior distribution and the posterior distribution of the model parameters under the same conditions, taking the 12-field flood in Longwan River basin as the research object. The results show that, the result of using the posterior distribution range is better than that of the parameter selection range, which improves efficiency, and the overall performance and prediction precision of the model prediction, and lays the foundation for parameter identification and parameter transplant in the missing data area.