基于Vague集相似度量模型的城市水安全应急保障能力评价

Evaluation method of urban water security assurance capability for emergency rescue based on similarity measure of Vague sets

中文关键词：Vague集　城市水安全　应急保障　评价　成都市

英文关键词：vague sets　urban water security　assurance capability　comprehensive evaluation　disposal rate of pollution accident　Chengdu City

基金项目：

作者	单位
李永	四川大学 水力学与山区河流开发保护国家重点实验室，四川 成都 610065
朱明	
李嘉	

中文摘要：

　　城市水安全应急保障系统具有复杂、多变以及模糊性等特点。本文采用Vague集相似度量模型构建了城市水安全应急保障度综合评价模型。以成都市为例，应用该模型建立了成都市水安全应急保障度评价指标体系，包括目标、准则、指标3个层次，其中准则层分为7个评价维度；采用AHP法与Delphi法进行指标赋权；并设计了5个工况，对成都市水安全应急保障度进行评价。计算结果表明，成都市水安全系统的基础压力较轻，提高"突发污染事件应急处理率"，可增强城市的水安全应急保障能力。实例应用结果表明本文模型可对城市水安全应急保障度进行有效

英文摘要：

　　The urban water security assurance system for emergency rescue possesses the characteristics of complex, changeable and fuzzy. A model for comprehensively evaluating the urban security assurance capability for emergency rescue based on similarity measure of Vague sets is proposed. The model is applied to evaluate the assurance capability of the Chengdu City. The indicator system for evaluation is established which includes the layers of objectives, criteria and indicators, and the criteria layer has 7 evaluation dimensions. The weights of the indicators are determined by AHP method and Dephi method. The assurance capabilities under 5 designed working conditions are evaluated, and the disposal rate of pollution accident is chosen as a controllable factors. The application result shows that the proposed model can effectively evaluate the security assurance capability for emergency rescue of a city. For the Chengdu City, the elevation of disposal rate of pollution accident can effectively improve the assurance capability.

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