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中国北方岩溶区优势面控水机理及优势参数的确定与应用 [点此下载全文](#)

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摘要:

在地下水数值模拟过程中, 由于介质的空间变异性大, 水文地质参数的优分工至今仍是一个重要而又难以解决的问题, 本文将非饱和带土壤中的优势流概念推广到岩溶裂隙介质中, 系统地分析了形成优势流的优势结构面控水机理, 结合中国北方岩溶特征提出了实际工作中优势参数分方法, 并依据有限元方法进一步求解, 实例计算表明: 利用优势面分析方法可以确定参数最优分区, 所计算结果与实际情况基本一致, 该结论对地下水流数值模拟参数的识别提供一种新的途径, 同时对中国北方岩溶区地下水优势流的研究地以及地下水资源的科学评价等具有重要的参考价值。

关键词: [优势面](#) [控水机理](#) [优势参数](#) [数值模拟](#) [岩溶](#) [中国](#) [北方地区](#) [地下水](#)

The Controlling Mechanism of the Preferred Plane on Ground water Flow and the Determination and Application of Preferred Parameters in the Karst Areas in Northern China [Download Fulltext](#)

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Abstract:

In the groundwater flow modeling, the optimal parameter zonation is still an important problem and is also a difficult problem to deal with because of the spatial variability of water-bearing media. In this paper, the concept of preferential flow in soil study is discussed and extended into the karst-fracture media. The controlling mechanism of the preferred plane on groundwater is systematically analyzed and superior indexes for making certain optimal parameter zones in the karst regions of northern China are put forward. The parameters are calculated by the finite element method. This idea has been applied to the analysis of water flow controlled by preferred fractures in the Jiaozuo Mine and the result is in agreement with factual geological conditions. The idea is also applied to the modelling of groundwater resources in the Xuzhou karst area. The calculation results show that it is possible to make certain optimal parameter zonation to combine the analytical method of preferred plane with geological conditions. This conclusion is of importance in the study of preferred flow and the evaluation of groundwater resources in the karst-fracture areas in northern China.

Keywords: [preferred plane](#) [controlling mechanism of preferred parameters on groundwater flow](#) [pre-ferred parameter](#) [numerical modelling of groundwater flow](#) [karst in northern China](#)

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