论文

煤层底板突水评价的新型实用方法V：基于GIS的ANN型、证据权型、Logistic回归型脆弱性指数法的比较

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摘要：

为解决煤层底板突水预测预报评价难题，在煤层底板突水主控指标体系和脆弱性指数法提出的基础上，以峰峰九龙矿煤层底板突水为研究对象，分别应用新提出的基于GIS的ANN型、证据权型、Logistic回归型脆弱性指数法对该矿煤层底板突水进行了预测评价，并分别生成煤层底板突水脆弱性分区图，并对3种预测评价结果进行了详细对比和拟合分析，总结提出了3种预测评价方法的适用条件和他们各自的特点及优劣。

关键词： 煤层底板突水；脆弱性指数法；ANN；证据权；加权逻辑回归

A new practical methodology of coal seam floor water burst evaluation：the comparison study among ANN，the weight of evidence and the logistic-regression vulnerable index method based on GIS

Abstract:

In order to solve the difficult evaluation problems of coal seam floor water burst，based on the vulnerable index method and main controlling index system for floor water burst，the coal seam floor water burst in the whole area of Jiulong Coal Mine in Fengfeng was studied.Through applying ANN，weight of evidence and logistic regression，as well as the new styles of the vulnerable index method，the coal seam floor of the mine was evaluated and pictures were produced as the vulnerable zone of the coal seam floor water burst.Finally，three evaluated results were compared and analyzed，and the applicable conditions，the advantages and weaknesses of each method were also presented.

Keywords: floor water bursting；vulnerable index method；ANN；weight of evidence；logistic regression

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