论文

智能加权灰靶决策模型在煤与瓦斯突出危险评价中的应用

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摘要：

为了提高煤与瓦斯突出预测的准确性，并将突出强度与可能突出的危险程度进行量化，更有针对性地指导现场防突工作，基于灰色系统理论，提出煤与瓦斯突出危险性评价的智能加权灰靶决策模型的新方法。模型中将4个突出单项指标临界值作为灰靶临界值，并作为一致效果测度函数的正负分界点(即零点)，充分考虑目标效果值中靶和脱靶两种不同情形，对应突出强度和可能突出的危险程度，将突出危险性进行量化，实现了定性与定量相结合的预测，并分别划分突出强度等级及突出可能性程度等级，使预测结果更直观、更准确。评价结果表明，该方法对矿井进行煤与瓦斯突出危险程度的评价是可行的。

关键词： 煤与瓦斯突出；灰靶决策；危险程度；量化；评价

The application of intelligent weighting grey target decision model in the assessment of coal-gas outburst

Abstract:

In order to improve the accuracy of prediction of coal and gas outburst and quantify the quantify of outburst intensity and the criticality of outstanding，then to guide the outburst prevention work more targeted，a new method was putted forward.The method was based on grey system theory and intelligent weighted grey target decision model.In the model，the grey target critical value，four outstanding individual index critical values are grey target critical value which is the positive and negative cutoff point of the consistent effect measure function，and target and miss two different circumstances were fully considered.Corresponding outburst strength and possible outburst risk level，outburst hazard is quantitated.The combination of qualitative and quantitative is realized.And outburst strength grade and outburst possibility degree level were divided.So test results will be more direct and accurate.Evaluation results shows that，it is possible for intelligent weighting grey target decision model to evaluate coal and gas outburst risk level.

Keywords: coal-gas outburst；grey target decision；danger level；quantization；evaluation