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坚硬顶板冒落的离层遥测预报系统研究

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摘要 煤矿坚硬顶板冒落时对回采工作面造成的冲击较大, 将严重影响开采安全。针对用顶板挠曲变形量值来预报顶板冒落时, 预报阈值随着顶板岩性不同而有较大的差异的不足, 提出用顶板离层速度高峰段的出现作为预报下位顶板冒落的方法, 并研制开发顶板离层遥测系统, 经在木城涧煤矿坚硬顶板预报实践表明, 该预报系统可以实现对顶板冒落的遥测预报, 该成果对地下工程顶板冒落的监测预报具有一定的推广应用价值。

关键词 [采矿工程](#) [坚硬顶板](#) [离层速度](#) [遥测系统](#) [冒落预报](#)

分类号

RESEARCHES ON REMOTE MONITORING AND FORECASTING SYSTEM FOR HARD ROOF FALL

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Abstract

Hard roof fall will have great adverse impacts on mining engineering; and it will affect the safety of mining. Generally, the value of distortion or bedding separation of roof may be used as the indicator of roof fall, but it is very difficult to give a definite separation value to forecast roof fall because the separation threshold of roof fall changes with the lithology of roof. A new method using the curve peak segment pattern of separation velocity in roof is presented to forecast the roof fall below separation. A new computer-controlled remote monitoring roof separation and a forecasting roof fall system have been invented. It is shown by the hard roof fall forecast practices in Muchengjian Mine in China that the system is accurate and reliable; and it can forecast roof fall ahead 15-29 hours. The system can provide references to the roof fall predication in various underground engineerings.

Key words [mining engineering](#) [hard roof](#) [separating velocity](#) [remote monitoring system](#) [roof fall forecast](#)

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