

论文

TSP超前地质预报异常地震波信号

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摘要:

隧道地震波预报(tunnel seismic prediction, TSP)超前地质预报系统已在国内外多条隧道中成功应用, 做为一种应用最为广泛的长距离预报手段, 在隧道施工地质预报中发挥了巨大的作用. 在TSP数据采集过程中, 会遇到复杂多变的围岩和现场条件, 采集到的地震波波形也会千差万别. 研究了儿种常见的异常原始地震波波形特性和成因, 并提出采取相应的措施, 避免产生和接收异常信号, 提高TSP地震波信号质量, 为增加TSP数据解译的准确性和可靠性打下坚实的基础.

关键词: 隧道地震波预报; 超前地质预报; 异常地震波信号; 数据解译

Abnormal seismic signals in the TSP advanced geological prediction

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Abstract:

As one of the most commonly used long-term geological forecasting methods, the TSP advanced geological prediction system, is now used successfully in many tunnels at home and aboard, which plays a tremendous role in tunnel construction and geological prediction. A variety of surrounding rock and site conditions will be encountered in the collection process of the TSP data, so the collections of the original seismic waveforms are different in many ways. Research was made on the characteristics and causes of several common abnormal original waveforms. By adopting corresponding measures, it can avoid triggering and accepting abnormal signals, and more rational seismic waves can be obtained, and the accuracy and reliability interpretation of the TSP data can be improved.

Keywords: TSP; advanced geological prediction; abnormal seismic wave signals; data interpretation

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