



## 论文摘要

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### 单轴压力下岩爆倾向岩石的声发射特征

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**摘要:** 在电液伺服刚性试验机上, 对某矿一种具有岩爆倾向的岩石进行声发射研究, 得出了声发射参数与岩石应力-应变曲线对应关系. 声发射数统计和声发射波形频谱分析结果表明: 在加载过程中, 应力达到一定水平时声发射数发生突跳, 声发射频谱由低频向高频发展, 到一定应力水平后基本保持稳定, 能量由低频向高频集中, 声发射突跳点与主频转换点应力水平基本一致, 这对硬岩矿山岩爆预报有一定的指导意义.

**关键字:** 岩爆; 声发射; 频谱

### Characteristics of acoustic emission of bursting-intended rocks under uniaxial compression

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**Abstract:** The acoustic emission characteristics of a kind of bursting-intended rocks under uniaxial compression with servo-controlled machine are studied. The relationship between acoustic emission parameters and stress-strain curve is obtained. It is found that acoustic emission count increases abruptly while stress reaches a certain level; the frequency increases until load reaches the given value, and then it keeps almost constant; the energy of acoustic emission wave clusters from low frequency to high frequency, and the stress level of abrupt increase of acoustic emission count is the same as that of the turn point of main frequency. The study is useful to rockbursting prediction to some degree.

**Key words:** rockbursting; acoustic emission; frequency spectrum

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