

论文

基于岩体破裂规律的下沉系数变化

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摘要:

采动岩体是一个运动变化的过程, 根据其结构演化特征, 建立了岩体运动破坏模型。而后根据采动岩体的运动破坏规律, 研究了岩体下沉系数衰减指数与单位长度断裂块数间的相互关系, 并进一步根据现场矿压观测资料, 回归出了不同岩性岩体垮落步距与采深之间的函数关系, 进而通过推导得出了下沉系数与采深和岩性影响系数间的关系式。计算结果表明: 下沉系数随着采深的增大而减小, 近似呈负对数关系; 不同岩性条件下沉系数也不相同, 岩性越硬, 下沉系数越小, 岩性越软, 下沉系数越大。

关键词: 岩体破裂规律; 下沉系数; 采深; 衰减指数

Change of subsidence factor on the law of rock mass rupture

Abstract:

The rock mass is change during mining, according to their evolutionary characteristics, the model of movement and destruction of rock mass was built up. Then the authors researched on the correlation between attenuation index of mass subsidence factor and the breaking number of unit length rock according to the law of the rock mass rupture. After that, we gained the functional relationship between the fracture length of rock mass and the mining height by regression fitting using of underground measurement data of field observation, at the while, we derived to confirm the relationship formula of subsidence factor with the mining height and influence coefficient of lithology. The results show that the subsidence factor decreases with the increase of the mining height, which approximately presents the negative logarithmic function relationship between them, and under different lithology, subsidence factor has different value: the harder the mass, the smaller the value, vice versa.

Keywords: law of rock mass rupture; subsidence factor; height of mining; attenuation index

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