

Monitoring of a massif's changes under tension.

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For monitoring underground engineering constructions research workers use different geophysical methods. To compare the results, testing of the whole measuring equipment is necessary, - it is a rather complicated and expensive procedure. It is assumed that it is more perspective to completely process the information obtained till the final result responsible for the consequence of the event has been obtained.

On the basis of a new criterion, a technique for the results assessment and the decision acceptance was worked out as applied to the problem of geomechanical monitoring of the tension-deformed state of elements of big engineering constructions. On the basis of numerical simulations, chances for the usage of the given criterion for the instances when the second experiment is impossible (a typical situation with expensive and unique experiments) were assessed. When solving problems of the same type the probability of accepting a correct decision was more than 0.95.

The trials were held at the depth of about 1 000 m when monitoring a part of a massif under tension. In accordance with the technique suggested, signals of seismic-acoustic emission were processed in real time. Based on the data processed, the decision "dangerous" was accepted. In a day the massif's block collapsed.