



Algorithm of Rock Burst Preparation Scenario Construction in Rock Massif under Explosion Influence using seismic Catalogue Data

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A new algorithm of seismological information processing of detailed mines catalogue with use kinematic and dynamical characteristics of deformation waves, which propagate with different velocities in the rock massif, which is under heavy influence of single blasts and technological explosions is developed. It is estimated that the waves, which propagate with the velocities from 10 to 1 m/hour are primary carrier of the energy in the massif and promote its releasing. Events, which occur in the massive with these waves with releasing energy less than 104 joules promote to the creep rebuilding of the massif. Events, which occur in the massive with these waves with releasing energy more, than 105 joules, can be used as rock burst precursory and it is recommend taking into account by changing of explosions in the indicated part of the massif. The whole absence of such events indicates the growing of the stress massif state in the mine as a whole. The received joined information from the seismic catalogue is very significant for forecasting of dangerous events in the rock mines. That algorithm can be used also for analyzing seismic natural events preparation.

Key words: massif response, slow deformation waves, seismic mine catalogue, analyze of observed data, algorithm of seismological information processing. 1.Hachay O. A. The reflection of synergetic Features in the Response of geological Medium on outer Force Actions. / O. A. Hachay, O. Yu. Khachay, V. K. Klimko, O. Yu. Shipeev // Advances in heterogeneous Material Mechanics – Shanghai, China, 2011. –P. 361-366. 2.Hachay O. A. Construction of a State Evolution dynamical Model of a Rock Massive, which is in a regime of energetic Pumping. / O. A. Hachay, A. Yu. Khachay, O. Yu. Khachay // Geophysical Research abstracts. –2011, –Vol. 13, – EGU2011 – 1528. 3.Khachay O.A. Dynamical model for evolution of Rock Massive State as a Response on a Changing of Stress-Deformed State. / O. A. Hachay, A. Yu. Khachay, O. Yu. Khachay //Fractal analysis and Chaos in Geosciences, chapter 5./Edited by Sid-Ali Quadfeul. –In Tech,Croatia. 2012. –174p.