

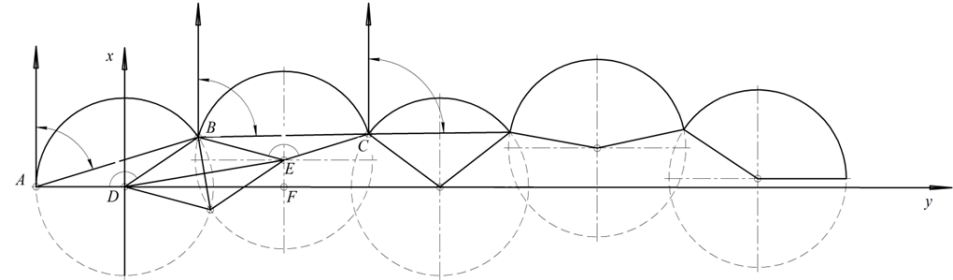
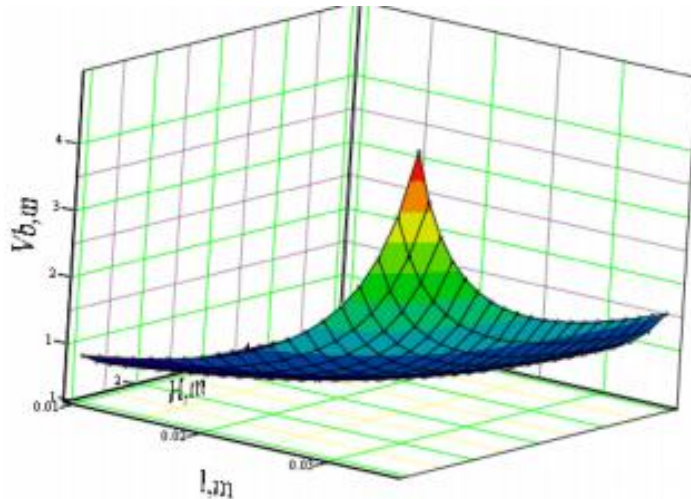
## QUALITY CONTROL OF DRILLING OPERATIONS

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Drilling of blast-holes is widely applied at pits of building and dimension stone. The lineage drilling is quite widely applied in global practice in order to prepare the mined rock for extraction.

When drilling of blast-holes line, there can be deviations due to the following reasons: cracks, stress condition of massif, inaccuracy of drill-press installation, side play due to physical wear or constructive shortcomings of certain units of the drilling rig and influence of surface irregularities where the machine is installed on the accuracy of its installation.

With research objective of influence of blast-holes overlap zone, drilling of 7 series of 3 m in depth blastholes with a diameter of 40 mm with overlap of 5, 10, 15, 20, 25, 30 and 35 mm in the Osnykovskoe occurrence by Perfora Rombo TC drilling rig was carried out.



Deviation of blast-holes was measured by photogrammetric method according to the technique proved in papers after separation of monolith by traces of blastholes in the massif.

Researches of dependence of blast-holes deviation in the crack plan perpendicular to the direction of formation and length of overlap zone of the neighbor blast-holes have been conducted. The statistical analysis of the obtained results has revealed rather close correlation connection between these. results; it is characterized by correlation coefficient 0.667.

The analysis of dependence of blast-hole deviation on depth of drilling and length of blast-hole overlap zone has shown that this size is increased intensively with increase in depth of drilling and less significant with growth of length of blast-hole overlap zone.

As a result of researches, the methods of determination of angular deviation and blast-hole deviation in the plane, which is perpendicular to the direction of blast-hole crack formation, have been developed.

On the basis of use of the developed methods, the influence of size of neighbor blast-holes overlap zone on blast-hole deviation from design value has been determined, empirical dependences for their forecasting have been obtained and optimum values of parameters, which identify drilling volume for specific conditions of the Osnykovskoe occurrence, have been determined.