

The SMX Blast Controller – Determining the geometrical parameters of a blast based on 3D imaging

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ABSTRACT

The SMX Blast Controller is a novel tool for precisely controlling the geometry of a blast based on the technology of 3D imaging. On the basis of two images taken with a calibrated standard digital camera from the bottom level of a bench, the three-dimensional geometry of the surface is determined. The simple acquisition procedure leads to parameters, such as rock face topography, face height and inclination, face profile at any position, or burden over the length of a borehole provided the borehole location is known. Using the system one identifies (i) the correct bore hole positions of a given drill pattern where there is no need for any additional surveying instrument to find those locations, (ii) the volume to blast associated with each bore hole, and (iii) profiles for each bore hole. The system was designed for a quick and instant use in quarries in order to get control on the behaviour of a blast, increasing safety and optimising blast results.