

G. DZIK , A. MIREK

State Mining Authority, ul. Poniatowskiego 31 40 – 055 Katowice, Poland (*Corresponding author:
g.dzik@wug.gov.pl)

Application of PANTERA system for monitoring vibrations induced by blasting works in open pit mining plants – a case study

Abstract

Measurements of vibrations induced by blasting works in mining plants are one of the possibilities of controlling the operations of open-pit facilities by supervisory authorities. Apart from checking the safety related to the elimination of rock breaking hazard, the seismic safety of blasting works is also checked. As part of these works, impact of vibrations surveys on buildings within the range of harmful impacts zone of seismic vibrations are carried out. It should be noted, that the safety and security of inhabitants of these buildings is a priority. The article presents the possibilities of using digital apparatus for recording and processing vibrations induced by blasting works used during supervisory activities in open-pit mines from 2015 to 2017. Recording and size of events depends on mining conditions and geological structure of the exploited deposit and is closely related to detonation of explosive charges. Examples of assessments of harmfulness of vibrations transmitted by the ground to buildings and the use of dynamic impacts SWD scale against the backdrop of the current norm no PN-B-02170: 2016-12 are discussed