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Problematic aspects of interpretation of seismic signals induced by detonation of explosives.

Abstract

The article presents problems of interpretation of seismic signals registered in the ground and foundations of buildings which are induced by the detonation of explosives. In the course of blasting in opencast mines harmful effects may occur. The primary impacts which usually occur are as listed, induced vibrations, airblast, acoustic wave and the flyrock. Each of the impacts mentioned above practically always occurs to a greater or lesser extent. There are technical and technological methods to reduce them, but minimizing one can enhance the impact of the other. Furthermore, impacts such as vibration, acoustic wave, and airblast may overlap - the additive effect, which might cause problems with the unambiguous identification and interpretation of the recorded results. The paper presents the results of tests carried out on a laboratory scale of the detonation of varying weight explosives samples. In addition, examples of seismic signals recorded during field measurements around open pit mines are presented.