

Explosion-induced snow avalanches

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The study concerns of such explosion factors as seismic and air shock waves. Two mechanisms of snow instability caused by explosions are discussed. First of them bound with additional loading of a snow layer and another one with decreasing of snow strength. Measuring equipment for ground shaking and air shock wave pressure measurements as well as results of the measurements obtained during technological explosions in an open pit mine and their analysis are presented. A construction and characteristics of a shaking table designed for laboratory studies of the shaking effect on snow strength are described. Approaches for deterministic and stochastic simulation of explosion effects on snow stability and avalanche release are considered. The work was supported by Russian Foundation for Basic Research (grant 05-05-64368-à).