

Abstract Submitted
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Shock metamorphism of hornblende and plagioclase in conditions of step-like compression of polymineral rocks IRINA BELJATINSKAJA, Moscow State University, TATIANA BORODINA, VLADIMIR MILYAVSKIY, IHED of JIHT of RAS, LUDMILA SAZONOVA, Moscow State University, DMITRIY ZHERNOKLETOV, IHED of JIHT of RAS — The impact transformations of plagioclase (Pl)- hornblende (Hbl) schist with garnet (Southern Urals) and clinopyroxene-Hbl-Pl schist (Anabar Shield) have been studied with use of recovery assemblies of planar geometry. In the specimens, shock pressures were ranged from 26 to 52 GPa. It was found that an increase of content of F, Ti, and K in a composition of Hbl, as well as a decrease of content of Ca in a composition of Pl, make these minerals more stable to action of shock waves. In experiments with the stepwise shock compression of polymineral rocks the isotropization of Pl begins at lower pressures than in analogous experiments with monomineral specimens. Under relatively low pressures, Pl isotropization is caused by its fragmentation on a microscopic scale and is associated with the origin of maskelynite - a typical mineral of meteorites and astroblemes. At higher pressures, Pl isotropization is related to amorphization by means of melting.

Irina Beljatinskaja
Moscow State University

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