

Abstract Submitted
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Shock-metamorphic Transformations of Rock-forming Minerals in Condition of Step-like Shock Compression of Crystal Schist¹ IRINA BELYATINSKAYA, VILEN FEL'DMAN, VLADIMIR MILYAVSKIY, TATJANA BORODINA, ALEXEY BELYAKOV — Shock-metamorphic transformations of garnet, biotite, quartz and feldspar were studied with the use of recovery assemblies of planar geometry. Experimental samples were prepared from Southern Urals' crystal schist. The maximal shock pressures in the samples were attained upon a few reverberations of the waves between the walls of the recovery ampoule (step-like shock compression) and were equal 26, 36 and 52 GPa. and feldspar reveal the strongest transformations. Planar elements having different crystallographic orientation appear in quartz at 26 GPa. Feldspar amorphization degree grows up with shock pressure amplitude increasing, reveals strong mechanical deformations (fissuring, crumbling stripes forming). It is partly being melted, the strongest biotite melting degree is observed at 52 GPa. transformed weaker than other minerals. It becomes heavily cracked under shock wave compression. Its fissuring degree becomes greater with shock pressure growth.

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