ON POSSIBILITY OF DIAMOND FORMATIONS IN RADIATION PROCESS.
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The possibility of diamonds formation in radiation process was checked studing of diamond contents in carburanium sample. The diamonds were not found and this result is discussed.

At present one of possible process of formation nanometer-size diamond crystals in some meteorites and Earth's diamonds (carbonado) is suggested the radiation mechanism: the formation of diamonds from carbonaceous matter in tracks of U fragment fissions and heavy fragmentation due to the action of energetic particles of cosmic rays [1,2,3]. So Bjakov et al.have carried out the calculations and shown that volume of formed diamonds in carbonaceous chondrites by radiation process correspond to discovered of diamonds volume in chondrites [1].The discover by Ozima et al. [3] the unsupported fission Xe and Kr in carbonado supports the supposition that carbonado could be formed by radiation process [2].

The possibility of diamonds formation in radiation process can possible to check studing of diamond contents in Earth's samples enriched by uranium and carbon. For this the purpose we undertake the attempt to release the diamonds from carburanium. The contents of uranium oxide and carbon in carburanium respectively are equal to ~5 wt.% and ~65 wt.% [4] and because the carburanium is suitable the object for solution of this problem.

3.3g carburanium was used for experiment. The radiogenic age of sample is equal to $(1.7\pm0.2)\cdot10^{9}$y. The quantity of diamonds which were could be formed in sample by radiation process can calculated using above mentioned parameters. The volume (V) of track high-temperature part from two fragments fission of one uranium atom we take equal to $2\cdot10^{-15}cm^{3}$ [1]. As note Bjakov et al. [1] in this volume P,T-conditions correspond to those at for-

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mation of diamonds. It was obtained the weight of diamonds in carburanium sample must to be ~150 mg. For isolation of diamonds from sample was used the stepped chemical treatment. This method is widely used for release of nanometer-sizes diamonds from chondrites and we also employ it for release diamonds from chondrites.

The carburanium sample was treated with mixture of $HNO_3$+HCl at T~20°C and ~80°C; with $K_2Cr_2O_7$ at T~80°C; with $HClO_4$ at ~140°C and ~220°C , and with 6N HCl at ~60°C. The white color acid--resistant residue (~1mg) was obtained on finish dissolve stage of sample.This resudue not contain of diamonds that follows from X - ray structure analysis. Thus, we have not detected the diamonds in carburanium sample whereas according to calculation this sample should contains about 150 mg of diamonds formed by radiation mechanism. Therefore used by us at calculation of diamond contents in sample the value V and supposition that the diamonds is formed in each track of fragment U fission are not real. It's probably the product V·N, where N is quantity of fragments U fission forming the diamonds, must be at least 100 times less than used by us. This reference was made on the basis that we could be to release of diamonds, even if their contents in sample is about 1 mg. But in this case the calculated by Bjakov et al. [1] the quantity of diamonds formed by radiation mechanism in chondrites must also be decreasedin ~ 100 times. It's led to inessential contribution of diamonds formed by radiation mechanism to total quantity of diamonds in chondrites.

Of course, it's impossible exclude that the efficiency of diamonds formation by radiation process in the carburanium can differ from those in another U - rich rocks and minerals and the more in meteorites. Because this study is would continue.

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