

UNSTABLE NUCLEI EVOLUTION IN NATURAL PARAGENESIS FORMATION OF MINERALS

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We are analyzing problems of geochemistry and mineralogy of radioactive elements. The aim of the present paper is to report on a phenomenon which occurs in the association of secondary minerals. The phenomenon results in creation of the secondary minerals as products of the evolution process of U, Th and their daughter elements. To this day the evolution of radioactive elements is essentially α -fission phenomenon with ^{206}Pb , ^{207}Pb , ^{208}Pb and ^{209}Bi final products. Spontaneous and neutron induced fission's of U and Th in the elements evolution make less than one percent. At the same time the result products of two last channels of fission apply generally to the middle side of Periodical Law. Since 1984 the deeply asymmetric cluster fission of U and Th has been known as a new type of radioactive fission process which is characterized by formation of nuclei of the elements from Li up to Fe. The most surprising for us is that the analyses of isotopic ingredients of the admixtures and the unstable elements in our samples gives us that U and Th nuclei can fission by the channel of mixed fission (our term) in the natural conditions. Recently it has become non-prohibited to fission in the several channels of fission for U, Th and other daughters elements. We conclude from this study that as a result of all types of radioactive fission in the paragenesis of radioactive elements during the geological age significant quantity of secondary elements is accumulating the presence of which can not be explained from the classical geochemistry point of view but quite truly shown by our hypothesis.