



## SOME REGULARITIES OF STRUCTURE FORMATION OF ACTINIDES AND THEIR ALLOYS

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### О НЕКОТОРЫХ ЗАКОНОМЕРНОСТЯХ СТРУКТУРООБРАЗОВАНИЯ АКТИНИДОВ И ИХ СПЛАВОВ

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The sequence of the changes in crystalline structures of 5f-actinide metals during their interalloying, under high pressures, and during 4f-lanthanide metals alloying with plutonium can be explained by involvement of 5f-electrons into interatomic bond formation. Ratio of "metallic" radius to trivalent ion radius ( $R_m/R^{3+}$ ) is taken as a measure of this involvement by analogy with criterion  $R_m/R_{4f}$  (ratio of "metallic" radius to 4f-shell radius) used for lanthanide metals. The changes going on in crystalline lattices of americium, curium, praseodymium and samarium during their alloying with plutonium, phase transformation in transplutonium metals under high pressures, and the sequence of change in "metallic" radiuses along the actinides series are the subject of the present report.

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